

VOL. XII. NO. 3

DECEMBER, 1914

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THE RELATION OF EZRA CORNELL TO
THE COLLEGE OF AGRICULTURE BY
DR. ANDREW DIXON WHITE

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PROFESSOR ISAAC PHILLIPS ROBERTS

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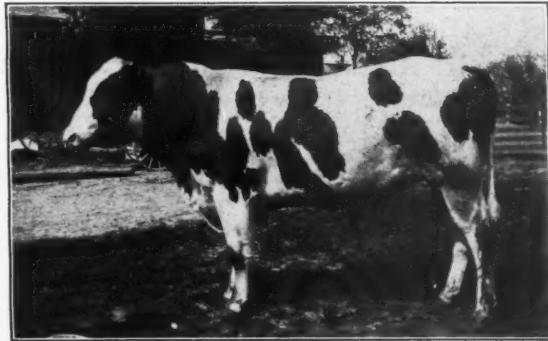


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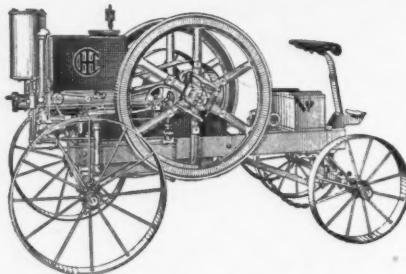
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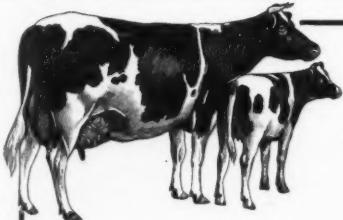
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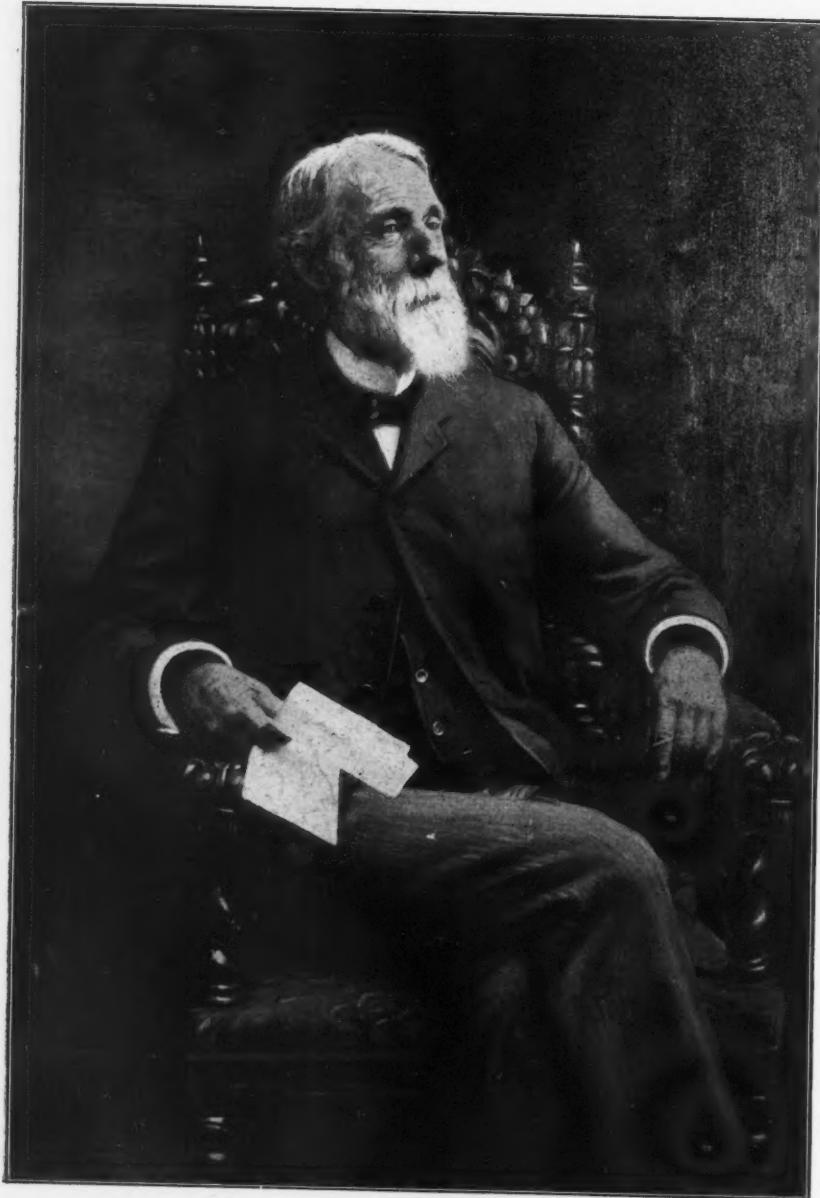


DECEMBER

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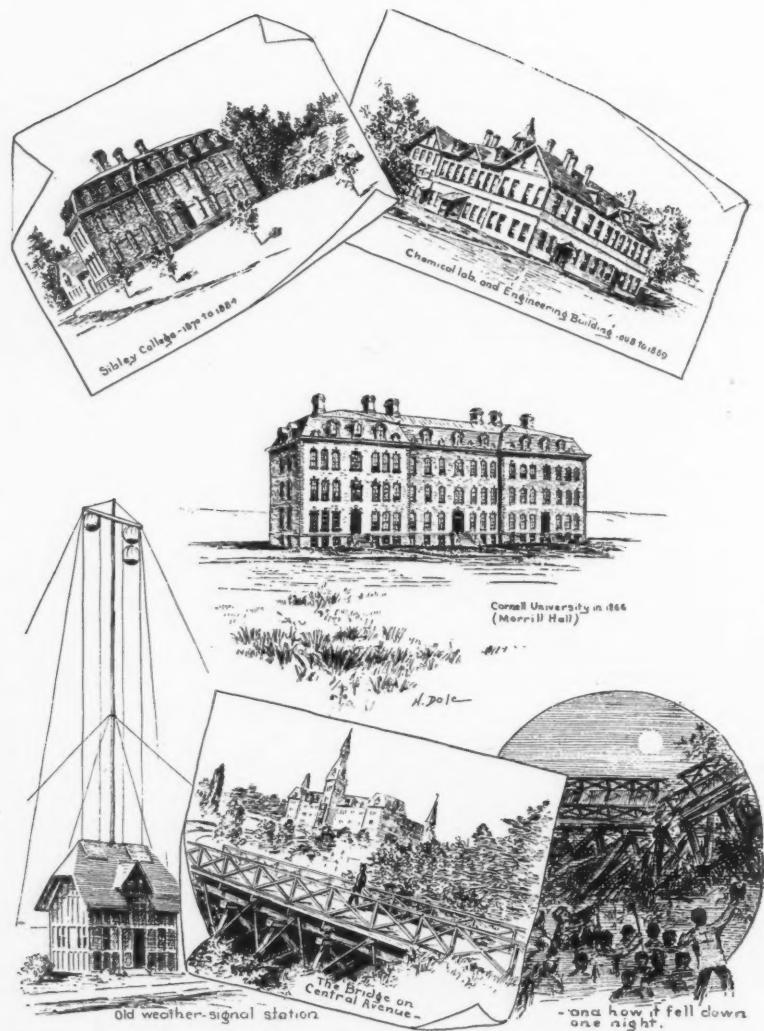


ISAAC PHILLIPS ROBERTS

PROFESSOR AND DEAN OF THE COL-
LEGE OF AGRICULTURE, 1873-1903

ISAAC PHILLIPS ROBERTS
1873 PIONEER 1903

TO YOU WE DEDICATE THIS
ISSUE OF THE COR-
NELL COUNTRYMAN, AS THE EXPRESSION
OF THE LOVE AND ESTEEM OF THE STUDENT
BODY OF THE COLLEGE OF AGRICULTURE,
WHO, AS THE YEARS GO BY, SEE YOUR
PORTRAIT DAILY IN THE ASSEMBLY HALL
AND LEARN TO PRIZE THE SUBSTANTIAL
WORK YOU DID WHEN WORK WAS DIFFI-
CULT AND REWARDS WERE SLOW. ALL
YOUR OLD STUDENTS AND ASSOCIATES, IN
MANY RESPONSIBLE PLACES IN THE WORLD,
WILL JOIN WITH US IN THIS GREETING AND
REMEMBRANCE.



OLD CORNELL

The Old Wooden Bridge on Central Ave. Spanning Ravine
 South of Sage Cottage was torn down by
 Students on Hallow'een, 1882.

THE CORNELL COUNTRYMAN

Vol. XII

DECEMBER, 1914

No. 3

THE RELATION OF EZRA CORNELL TO THE COLLEGE OF AGRICULTURE.

By Dr. Andrew D. White

(Notes from a talk given recently to a group of students by Dr. White.)

IN speaking of Mr. Ezra Cornell's connection with the College of Agriculture, I confess to you frankly that I am under one disability: to my great regret, I have never known practically anything of farm life. It is a singular thing that Cornell University, including its Agricultural College, involved the necessity of my making an address before the Legislature and other bodies on Cornell, but my training had been such that during the whole 20 years of my Presidency of the University, I doubt whether I could have told wheat from barley, on the other side of the fence. That is where my education was neglected. Therefore, although there will be details regarding Mr. Cornell's efficiency in regard to agriculture and agricultural matters, where I shall be at some loss, yet I think that I can give the main points of those things that are necessary to an understanding of what has been done by him, and the impulse he gave to the College of Agriculture, and to the proper position of agriculture in the State of New York and in the Union.

Mr. Cornell, as probably all of you are aware, was brought up on a farm in Westchester County in this state, and when he came to manhood, he struck out for himself. He was brought up a member of the Society of Friends, well and carefully instructed in the proper theory of his duties to the Almighty and to his fel-

low men. He made his way northward and westward, stopped in Syracuse for a short time, where he was cheated out of his wages; and as he did not like the place, went on to Ithaca, where he fell in with various men whom he liked. He was born, as I say, on a farm; he was brought up among the surroundings of farmers, and he afterwards preserved a great taste for everything connected with agriculture. But he was still more of a mechanic, and a very good mechanic, than he was farmer: it may be because he did not go into farming to any extent at first. He was employed in various mechanical matters, among them, very important ones, and it was soon found that he was a man of decided skill, an excellent workman, conscientious, of strong character, and with a great deal of foresight. He soon was at work upon the most important things that were being done in this community at that time. One of the things where he made his mark was in the large wood mill which stood where Cascadilla now stands. His employer was Mr. Eddy, after whom Eddy Street is named. Mr. Cornell was devoted to his work, he helped to bring the whole factory into shape and speedily became the foremost man in the whole concern.

Mr. Cornell was interested in various matters: his interest in agriculture always remained, and curiously enough, the invention that paved the

way to his very large fortune and his public life, and his public-spirited efforts, was the invention and development of a plow. He worked away, as Thomas Jefferson did, at the mould board of a plow. Mr. Cornell invented a plow, and started out to sell patent rights for it. He went through various parts of the North, and at last reached Maine,—somewhere near Portsmouth, I think,—and he called on a noted man who had become interested in the Morse telegraph, Mr. F. O. G. Smith, very widely known as "Fog" Smith. Mr. Cornell went to his office, understanding that he was interested in public works and invention, and tried to interest him in this plow. When Mr. Cornell came in, Mr. Smith was lying on the floor of his office upon a great number of plans and drawings, and when Mr. Cornell presented his idea of a plow exclaimed, "I have nothing to do with plows, but if a man will come along and help me in laying a new telegraph wire from Washington to Baltimore, I will talk with him." Congress had made a small appropriation, although it was thought to be a wild goose sort of chase. Considerable opposition was made to carrying the proposed telegraph which Professor Morse had invented, from Washington to Baltimore, and no other way was thought of except to have the wires insulated, wound in silk thread, and put into a leaden pipe sunk in the ground. Mr. Smith, it appears, was one of the contractors for laying the trench of the pipe, and he discovered that there was danger of his losing considerable money in it. Mr. Cornell said to him: "Mr. Smith, I will supply you with a plow that shall dig the trench, that shall lay the lead pipe with wires in it, and that shall cover it up again." Mr. Smith did not at first believe him, but Mr. Cornell explained how he proposed to do it, which was, to make a modification of a plow for laying drain tiles which he had heard of in England, a very heavy plow, of course, that would dig out a deep trench and then with a sort of a hose cart following it, on which was wound the leaden

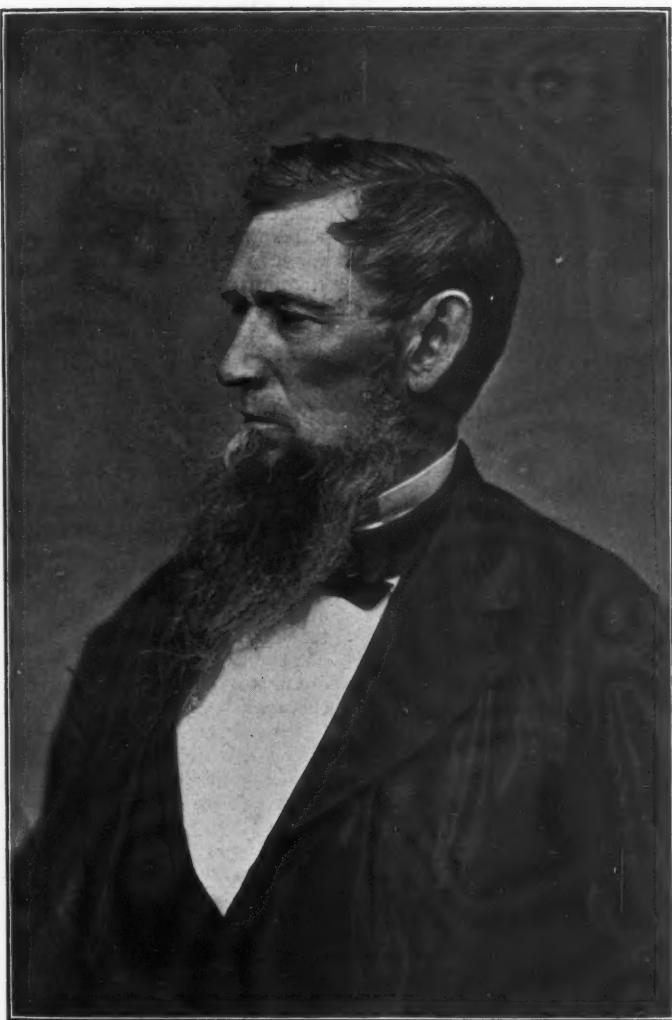
pipe containing the two wires, lay the pipe.

At first Mr. Smith could not believe it, but Mr. Cornell was so lucid in his explanations, and so urgent in his arguments, that he finally agreed to pay Mr. Cornell the necessary expense of making the plow, and if he succeeded, to give him a bonus of \$100. Mr. Cornell went at it, the plow was found to work, and it was taken to Washington. Professor Morse, Mr. Smith and others were on the ground to see the trial of the plow, which had a great number of horses attached to it, Mr. Cornell being the driver. They started out, the plow with the hose cart back of it, and then the mould board back of the cart to scoop the earth back into the trench. The horses were rather lively and started pretty quickly. The machine was thrown about a good deal, and presently disappeared over a knoll in front of the committee, who when they caught up, notified Mr. Cornell that it was evidently a thing that would not work, that it was thrown about too much, and that the laying of the wires could not proceed in that way. Mr. Cornell said, "Why, it has succeeded."

"What do you mean by that?" said Mr. Morse.

Mr. Cornell said, "The wire is laid. If you will take a stick and poke the earth over, you will find your wires at the bottom of the trench." That turned out to be true, and the result was that they paid him for his work.

But very soon Mr. Cornell lost all faith in that way of laying wires, for the insulation was very poor, and grew less and less effective every day. Matters were stopped, I think, for the winter and Mr. Cornell settled down in Washington. He was a man of very small means at that time, and was obliged to provide for himself and his family on wages paid by the company. He drew books from the various libraries, everything he could find on the subject of electricity, and made himself quite an electrician for those days. In the spring, when they started again, it was found that the

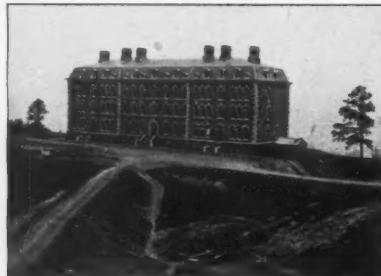


EZRA CORNELL.

JANUARY 11, 1807—DECEMBER 8, 1874

This plate was made from the last photograph of the Founder, taken in the early summer of 1874, at the request of some of the students.

insulation had the same trouble, was decreasing in effectiveness all the time, and Mr. Cornell openly avowed his belief that it would be better to string the wires upon poles. There was a great deal of opposition to that, but one day Professor Morse, having come to acquiesce in Mr. Cornell's idea, asked Mr. Cornell if he thought that he could gain some time so that some experiments could be tried with wires strung from poles, and whether he could do it so as not to disturb public confidence, because it was very clear that the appropriation made was not sufficient for carrying out their



MORRILL HALL IN 1866

plans. Mr. Cornell told Mr. Morse that he thought he could, and Mr. Morse bade him go ahead and do as he proposed. At that, Mr. Cornell started up his great team of horses,—I think there were 6 or 8 horses,—and ran the plow deliberately into a boulder, and smashed up the cutting part of the plow. The general public knew that a mishap had occurred to the machinery, and thought that they had stopped for repairs. Then Mr. Cornell went on, began with poles, strung the wires with such insulators as he had secured, and kept right on to success. There was never any more talking about the machine for laying the pipe in the ground.

All the men who formed the company soon saw that he knew what he was about, that he had strong common sense, and that he also was a perfectly straight, clear-headed, honest man. That was the making of him, for the result was that they found it was

better to deal with Mr. Cornell in charge of the whole matter than with anybody else. It seemed unfortunate at the time that they could not pay him money just as soon as the company was formed; rather, they were obliged to pay him mainly in the stock of the companies which were formed, and there were times when he really suffered privations. I was once told by a man who knew him in those days, that he was talking with Mr. Cornell as to the mode of getting wires up in the city of New York, for there was difficulty in getting them strung through the streets and over the houses. As they were talking, Mr. Cornell looked down and said: "Why, there is a ten cent piece." He stooped down and picked it up, saying: "Now I am sure of dinner. I was not sure of it before."

He also, when he had accumulated a little more money, and had secured credit, stretched some wires of his own, where his foresight showed him that they would be needed in the future of the telegraph. There was quite a long time when it was purely speculative: a good many people interested in it became alarmed and sold out their stock for a mere song, but he clung to all his. He foresaw that there was to be a great future for the telegraph and he built these lines of his own, which must eventually come into any great trunk line. Finally, the whole thing became a success, the great Western Union Company was formed, and he found himself a very wealthy man, with an income which amounted, after a few years, to about a million dollars a year. It was perfectly legitimate income, and honestly gained.

In 1851, he and Mrs. Cornell made a visit to Europe, going through the first international exposition ever held, that at London, in Hyde Park, the one thing he wished above all to see. His knowledge of mechanics and his knowledge of agriculture was such that both these fields interested him greatly. But curiously enough, he seemed to interest himself more in agriculture at that time than in me-

chanical things. He visited a very famous institution, the experimental estate of Lawes and Gilbert, at Rothamsted.

Mr. Cornell was greatly interested in that estate. Such splendid agriculture made a very great impression upon him, and on his return he took pains to do something in an agricultural way in the neighborhood of Ithaca.

He had bought this property on the hills here, as his own farm, his principal place of residence being down town. He sent home everything he could find that he thought would be of real value to agricultural development. He sent home a great lot of the very choicest Short Horn cattle.

Then he sent home fruit trees. His grounds up here were covered with different kinds of fruit trees from France. There were pear trees also, and lots of other kinds. Curiously enough he sent over a quantity of English elms, which afterwards became the approach to the stone house he built. We all joked with him because the English elms are by no means so beautiful or graceful as the American elms. Mr. Cornell used to laugh about his English elm experiment.

Mr. Cornell became known throughout the State. He then began to take an interest in the State Agricultural Society, and interested himself in the formation of the State Agricultural



MORRILL, MCGRAW, WHITE AND FRANKLIN

His Durhams were famous throughout the state and his herd was one of the three or four best in the State. He also sent for a lot of Southdown sheep. Goldwin Smith used to say that it was absurd to make boasts regarding the roast beef of Old England, that the roast beef in New York City was quite as good and that England was the great mutton country. The Southdown sheep were very famous. The result was that Ithaca had for several years the best mutton in the State, so noted indeed, that it was sent to the great market at New York City.

College, which was then located at Ovid, on Seneca Lake. Now, in order to understand his career, it is necessary to say a word in regard to the development of that Agricultural College. Probably most, even all of you, are aware that along about 1860, there was introduced into the Congress of the United States, in the House of Representatives, a bill for the establishment of colleges of agriculture and the mechanical arts. That was not merely the title of the bill. The bill was very much broader than that. It was introduced and championed by

Mr. Justin Morrill, of Vermont, one of the finest and noblest men I have ever known.

He carried his bill through the house, but it was vetoed by James Buchanan. Then Mr. Morrill had it transferred to the Senate, where he reintroduced the bill, championed it, and after a great deal of opposition (mainly from the states' rights men) carried it, Mr. Buchanan, though in many respects a very superior man,

whole thing. People did not quite understand what it was all for, but there were sharp men who did see what it meant. Just at that time, a gentleman in the Legislature of this state took measures to have the high school or academy at the end of Seneca Lake at Watkins established as a college under the name of *The People's College*, and a great ado was made about it: Mark Hopkins, of Williams College, was called to make the open-



Chapel

Morrill

McGraw White
CAMPUS IN 1877Sibley Chem. Lab. and Eng. Bldg.
Dr. Babcock's residence

never could find warrant in the Constitution for many things that the nation needed. Luckily, Mr. Lincoln had been elected, and he signed the bill. So there was appropriated to every state in this Union an amount of public land, which in those days was very largely timber land and farming land, at the rate of 30,000 acres to each representative in Congress, and as the State of New York had 33 representatives in Congress, including the two in the Senate, it received 990,000 acres of land. For that, the government issued land script, each piece being good for so many acres. The State of New York, as you see, received virtually 1,000,000 acres.

Now there came a new phase of the

ing address. It was said that the college was to be for the people, and great claims were put forth as to what was to be done in education. The founder, a wealthy man, got a few teachers together, and went on with his school. About the same time, the State Agricultural Society, Mr. Cornell being a prominent member of it, with other gentlemen, Mr. William Kelly and John Stanton Gould, a state senator and a great advocate of the importance of agriculture, and one of the presidents of the State Agricultural Society, started the State Agricultural College at Ovid. A building was put up and furnished. But the Civil War broke loose. The president of the College, I think, went to the war, became an officer and had a cred-

itable career. The two institutions, The People's College at Watkins and the Agricultural College at Ovid, were going. Shortly afterwards, Mr. Cook who was known as the boss of that part of the country, and whose grandson is the present Mr. Barnes, had great influence in the State senate. The result was that he brought in a bill, embodying a charter for The People's College, and giving it this colossal land grant in the state of New York. It passed without any particular notice, there being no struggle over it, as his influence was

England-looking man. In build, though not in cast of his countenance, he was like a good many of the better-portraits of our Uncle Sam, tall, thin, spare, limbs long, and with a certain severity in his look, which could change into a very pleasant expression of countenance. I did not get acquainted with him at that time. The leaders in the State held the main place on the floor. He was content, as I was, to listen. Our seats were near together. He was, with one exception, the oldest man in the Senate, and I was considerably the youngest



THE CAMPUS IN 1872

very large, and this immense body of land was appropriated to that little People's College.

Now we have got along to 1864. At that time, Mr. Cornell entered the State senate. I also became a member of that body at that time, and for the first time, we met. I had heard good things said about him by one of his friends, Mr. George Gettis, and had formed a high opinion of Mr. Cornell. I remember the first caucus of the Republican members of the Senate. It was a very trying time,—a time when a new levy of troops had to be put into the field by the state of New York, and when, after raising large sums of money, we were called upon to raise \$8,000,000 more. That sum in those days and circumstances looked as formidable as \$100,000,000 to-day. I remember that when we met in caucus, I looked around and saw Mr. Cornell for the first time, a tall, New

man in the whole body. Circumstances did not seem favorable to our getting acquainted, and they did not seem favorable when we did become acquainted, for we were pitted tooth and nail one against the other. Mr. Cornell had noted the capture of the whole fund by The People's College, and he therefore introduced a bill dividing the fund, withdrawing one-half of it from The People's College, and appropriating it to the Agricultural College at Ovid. Having been made president of the Committee of Agriculture, he moved that the bill be referred to his Committee on Agriculture. I arose and opposed him with all my might, insisted that it was an educational matter, and ought to be referred to the Committee on Education, on which I had a place. It was hard to see which way it would go. Somebody moved that a joint committee be made of the two, and

that the whole matter be referred to a committee made up of the Committees of Agriculture and of Education. I was determined that the fund should be kept together some way, if I could manage it. Nearly all the 23 colleges in the state were starving, the best of them being Union College. I made up my mind that there was a possibility in the great fund, and that it should be kept together. Therefore I opposed any division of it. The result was that Mr. Cornell kept calling on me to get my committee to join his. But the joint committee never had a meeting. In the meantime, I labored to show him what the State really needed, that it needed a university that would embrace technical studies, studies in agriculture, scientific studies, that it should not be under sectarian control, and various other ideas. We both agreed on one subject, that women should be admitted. We were heart and soul together in this respect. We did not dare to put it in the charter at first, but the charter was arranged so that they could not be kept out. I kept at him and by and by something of a friendship grew up between us. His confidence in me was of slow growth, but he soon gave it to me to a considerable extent. He saw I was in earnest. I kept urging on him the importance of having the whole fund for the purpose of such an institution that was needed, and at last he gave me notice, at the close of the first session, in 1864, to come to a meeting of the State Agricultural Society at Rochester. There I would hear something that would perhaps please me, he said. He there addressed a meeting of the Trustees of the State Agricultural Society and he stated that he was convinced that for an institution such as ought to be established for agriculture, mechanical arts, scientific and classical studies,—for they were all embraced in the charter from the government at Washington,—it would require more money than half the land grant would amount to. Land script was selling for about 60 c. an acre. The Comptroller had sold about 100,000 acres

and that gave him \$60,000. Mr. Cornell addressed the body and said that he was satisfied that I was right, that \$300,000, half of the land fund, would not be enough for such an institution that the great State of New York ought to have. In order to meet my scruples in the matter and to rise to the occasion, he then and there offered to give to the Agricultural College, providing the state would give it half the fund, the sum of \$300,000. That would make it \$600,000, which was likely to come to the fund afterward. There was great applause—all were carried away with it. It was supposed that the agreement would be made, when I simply declared that I would not agree to it. I saw new possibilities in this offer made by Mr. Cornell for a better institution than we had hoped for. It was perfectly clear that the institution at Watkins was not going to amount to anything. They had not complied with any conditions of their charter. The charter required them to have a certain number of professors but they had not appointed them. The charter required a library of a certain size but they had nothing but a collection of a few documents. All conditions had been disregarded and it was relying on its power to hold out. I then said if Mr. Cornell would give his \$300,000, and ask for the whole grant, I would introduce such a bill and support it with all my might. . . . They didn't know whether to laugh or cry over the matter. The possibility seemed great. When the next session began, I introduced the bill which met great opposition. All the colleges in the State except Columbia joined against it. It was claimed that we wanted to establish an atheist institution, which was godless, and that we did not propose to give any attention to classical studies. All over the State the opposition was very bitter. Lobby after lobby came down and presidents of various colleges began to work against the bill. One day, as Mr. Cornell and I were walking down the street together, at recess, he said: "There is something I would like to talk with you about. I have

a larger fortune than I need and than my family is going to need. I am able to give away half a million dollars. What in your opinion should I do?

"Well," I said, "Mr. Cornell, that is a pretty large question. But I will say this. The first thing in importance to the state is the charities. They will always be taken care of. The Legislature will always provide sufficiently for the great state charities, and you can rely upon the churches to look after the local charities. The next thing in importance is the education in the public schools. The first condition of a republic is to have the voters educated, so that they can at least read their ballots, and, if possible, understand speeches, and eventually read the newspapers. But in that which is the greatest in education, the higher education, the policy of this state has become one of non-interference. That has been done by various denominations so far. They do not have the means for, and do not realize the importance of higher education. There is where I would put \$500,000. I would put it in advanced education."

He did not say a word more about it until I was getting the bill ready, when he said: "You may make the sum I am required to give \$500,000, and a site for the institution." This was done. We had a tremendous struggle. Various corporations allied with the Cook interests, which were very powerful in the State. It was a great struggle. A little college in the western part of the State managed to tack on a clause obliging Mr. Cornell, if the university became established, to appropriate \$25,000 to that college. They tried to make him promise this sum privately, but he said: "No, whatever I do, I shall do publicly." I heard him say this. When the bill was passed, Mr. Cornell accepted it, and he paid the \$25,000 to the Genesee College. . . .

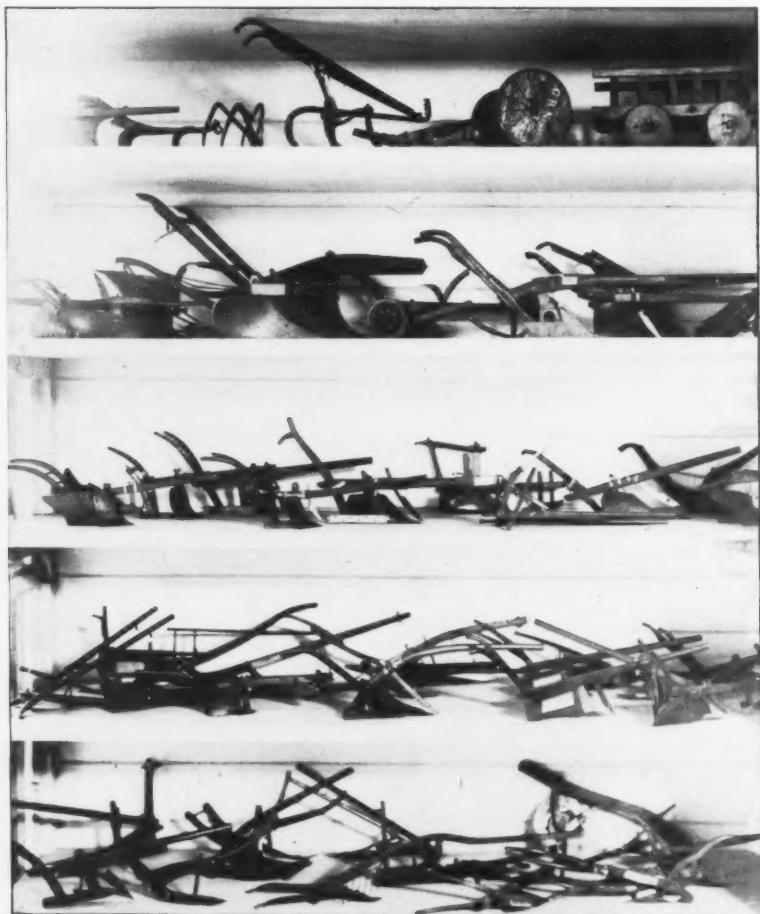
Next year, a bill was spontaneously introduced and went through by consent of all parties. Everybody was ashamed that Mr. Cornell, for the

privilege of giving away his money, should be required to pay \$25,000. Eventually this was returned to Mr. Cornell. There were a great many things of interest in regard to that struggle, but in that way the university was established. It was a very serious struggle for this reason, that the chairman,—I won't name him,—was the head of a country school, had distinguished himself by making political speeches and had been sent to the Legislature. As he was head of a public school he was made chairman of the Committee on Education in the lower house. Nothing in the world could induce him to let that bill out of his committee. Pressure of local interests, sectarian interests, and various important newspapers were against us, and this chairman of the committee would not let the bill out. This obliged us to have a two-thirds vote. Mr. Cornell, in order to get the votes, voted the plan of calling together, at his rooms at Congress Hall, squads of men on both sides. Then, he would introduce me, with a short speech to them, and I would present to them the plan and needs of the future university in the State of New York, if they would do their duty. The result was that we made some converts. Tammany Hall was solid against us. We all went down. One of the curious things of the whole matter was to see the weaker brethren run for the lobbies when the bill came up. But we shamed a number of them into going back and got just the two-thirds majority required, and the University was begun.

Now, as to Mr. Cornell's connection with it and the agricultural side of it. He showed an intense interest in it. He was a very broad-minded man, and was bound that it should be not merely a State Agricultural college, or a State College of Mechanic Arts, or both together, but that all of those things mentioned in the charter from the general government and from the State of New York, should be embraced in it. We were required to have military instruction, but he

swallowed that with the rest. I think that he believed in it, as I do. The reason why it was adopted was, you must remember, that our charter was given in '62, in the dark times of the war, and the South had received

agriculture and agricultural instruction. We had nothing to go by and nobody had a clear idea as to exactly what could be done. I was also commissioned to buy a great quantity of books. Very careful lists were made



RAU PLOW MODELS

This collection was secured by Dr. White at the Paris Exposition in 1868.
The models are now in the basement of Roberts Hall.

great help from the military schools. So we were required to give a certain amount of military instruction to the students.

I went to Europe, remained there about 4 months, finding out about

out. At the great Paris Exposition, which was then going on, a very large quantity of apparatus was bought. I think we were the first institution to have the Holtz electrical machine. Then I visited agricultural

colleges and colleges of mechanical and civil engineering and veterinary colleges. I visited the agricultural colleges in England, France, Germany and Italy. Curiously enough, in Italy, there was an agricultural college near the ruins of Pompeii. Everything I could find in the way of diagrams, (some of you may have noticed the papier mache models) I brought back with me. Mr. Cornell was pleased with the kernel of wheat, showing the whole structure of the grain of wheat. He was also greatly pleased with various other things of that kind. We kept up a constant correspondence. He put his hands in to his pockets deeply and got others to do the same. It was a large sum of money for those times: I spent over \$60,000 in three months. The result was that we started with a collection such as no other institution in the country had.

I have spoken of Mr. Cornell's foresight. At times, it seemed to be almost miraculous. He was the only man in the United States who foresaw, I think, the possibility of locating the lands that were endowed in the land grant. These lands were selling at 60 cents per acre. Mr. Cornell helped the State of Illinois by holding back our land script, so that they got \$1 per acre. He foresaw the possibility of locating the lands, and drew up a bill allowing him to locate the lands for the University, putting himself under heavy bonds to do this.

Mr. Cornell foresaw the future of the pine forests in this country. He determined to locate there. He employed an expert, put a great deal of work in it and realized what is now the bulk of his endowment of the University.

Mr. Cornell took more and more interest in the University, but he saw the necessity of bringing Ithaca into communication with the State. We were very unfortunate in that respect at the beginning. I called his attention to that and tried to have him locate the University at Syracuse, on the spot where Syracuse is now located. I had that idea in mind

when I was a young man in college. He therefore began applying himself not only to the location of the land, but to building railways. He foresaw the growth of this railway system, especially the Lehigh Valley system. He foresaw it, and put his fortune into it. His friends all feared the result, and I ought to say to you, that it has been stated by many people, that Mr. Cornell was ruined by Cornell University. That is not true. The sum he gave was a magnificent sum at the time, amounting to about \$750,000.

He brought his books, on one occasion, into a Trustee meeting, somebody having raised the question as to his means of doing things. He demonstrated that he still had a fortune of \$3,000,000. This he put into the railways. His foresight was too good. Black Friday came on. He had not foreseen that a pack of scoundrels would start a panic which brought on Black Friday. All this brought on his death. When he died, the University and his private affairs were in a sad condition. But some of his friends put his affairs into shape and fixed the affairs of the University. But as to his great fortune, that, he had put into the railways. The reason he had embarked in that enterprise was because he wanted the University to be brought into connection with the rest of the state. Up to this time, there had been no communication with Ithaca, except by means of Owego and Cortland, 22 miles away.

Another example of his foresight in remote matters: I met him one day on the grounds. Some of the Trustees had asked me to warn him against the possibility of such a catastrophe as did occur. He said, "I am going to live for," I think he said, "20 years, and I shall be able to give the University a million dollars more. I may not live to see it but you will see over 5,000 students enrolled here." I didn't believe this would ever come to pass. He was then 67 years of age, and his father was somewhere in the 80's. In 6 months he was dead from overwork.



DR. ANDREW D. WHITE AT THE AGE OF 37

Then came this calamity from which we extricated ourselves, for the Trustees of the University came together, and tided us over. But I must say this about Mr. Cornell—he paid the bills of the University promptly, and all the salaries.

I might allude to a good many things which showed his interest in agriculture, but he watched with the greatest interest the whole subject. I remember, when I started for Europe, he had heard of James Law, a most promising veterinarian. As I was on the ferry myself starting for the steamer, he waved his hand at me and shouted: "Bring back that horse doctor."

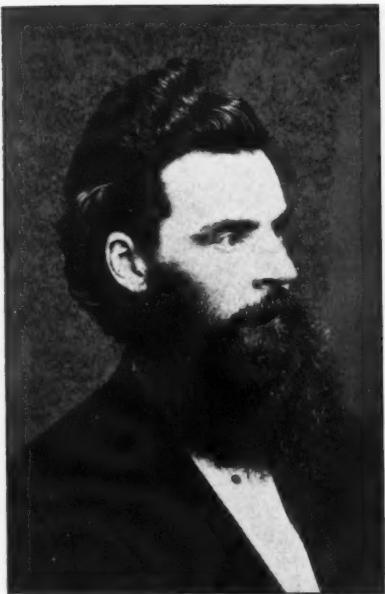
Mr. Cornell used to go into the laboratories for he was greatly interested in the students. He made a mistake one day that caused much amusement. He went into the chemical laboratory and there found a very bright professor, who later became eminent: Mr. Cornell mistook him for a student. He slapped the professor on the back, and asked him what he was wasting his time at. The poor professor was very much shocked.

There was one difficulty at the beginning. The mechanical arts college was not difficult to start. The same thing was true of civil engineering, and of the classical and scientific courses. The lecturers we had here, Aggasiz, Lowell, George William Curtis, were famous. In those days, every student in the University was obliged to hear a course of lectures by Professor Gould on agriculture. Strange to say, they did not take it as a hardship for Gould was a born orator.

The great trouble in securing professors was with the Agricultural College. We secured various men for the headship of the other colleges, but a professor of agriculture we could not find. We got man after man, but none of them would do. At last one day, there came along a young Protestant Irishman, with a letter of introduction from a minister. He was a fine looking young fellow. He bore another letter showing that he was a graduate of the Irish Agricultural College near Dublin, and that he had passed a very creditable course. He came to inquire if there was any place for him in the Agricultural College. He wanted a professorship. I confess I was not in favor of him because he did not look to me like a man who



PROFESSOR JOHN STANTON GOULD



DR. LAW, VETERINARIAN

would be a practical man in the field, but Mr. Cornell said, "Let's take him. Perhaps he can tell us how they get those wonderful crops that I saw in England, and about the wonderful appliances that I saw there. He has been brought up under that system. Perhaps he is just the man who could tell us." The result was that he was nominated, and elected. He told Mr. Cornell that there were a number of things he could show him, but that he must have some new equipment. First of all, he wanted a new barn. A barn was built with great care, Mr. Cornell paying for it out of his own pocket. Then he must have all the farm implements they had in England. Mr. Cornell paid for a great collection of farm implements. In the meantime, Mr. MacDuff, as we usually called him, lived at Cascadilla, and enjoyed himself. He was a witty Irishman, and could talk considerably about English agriculture. Occasionally, he would go out on the farm where Benham, the farm manager was working. He had a way going around the place with his yellow gloves and dabbling in the soil with his malacca

cane. In his life he had never seen Indian corn until he came here. Benham was a plain country farmer, a fine-hearted man. He had had great hopes in MacDuff and had tried to persuade Mr. Cornell that we were going to learn great things about English agriculture. But his faith seemed to grow less. One day Benham came to me and said; "Mr. White, you kin depend on 't, he ain't a-goin' to do nothin'; he don't know nothin' about corn, and he don't want to know nothin' about corn; *and he don't believe in pumpkins!* Depend on 't, as soon as his new barn is finished and all his new British tackle is brought together, he'll up and quit the job." I tried to calm Benham down. But he replied that as soon as things were ready, he would leave us.

Mac Duff tendered his resignation when Commencement time came on. This was one of Mr. Cornell's slight mistakes, but it was a good experiment. When Mr. Roberts came, a change began; that was the turning of the tide. Then came the prodigious success of Mr. Bailey.

I ought to say in connection with this that Mr. Cornell's location of the land caused him to be persecuted throughout the state. Mr. Cornell was berated throughout the State in various pulpits and newspapers as a land grabber, and land thief. It had a different effect on some other men. Mr. Hiram Sibley lived in Rochester



PROFESSOR T. F. CRANE

and wrote him a letter when one of these attacks appeared. He said he was not a man to answer the attacks in the newspapers, but that, as a way to show his belief in Mr. Cornell, he was sending a check for \$30,000. The attacks became severe. A member of the legislature in a public speech demonstrated that Mr. Cornell was a scoundrel who had got control of this land and intended to build up a fortune. This was published in many newspapers. I made a reply to it in the Chapel.

world for us," he said. "I have always feared these attacks would come. I rejoice to hear them uttered during my life. Now I can defend myself and the University. I shall ask Governor Dix to appoint a joint committee of men, who are politically opposed to me." This was done. The head of the committee was Horatio Seymour, the greatest Democrat in New York at that time, a man of the very highest character. He was made president of the committee. The committee had full power to call for persons and papers. It sat in New York, and held regular sessions. They had all the witnesses they could find, and their report was the happiest for the University that ever was.

Mr. Cornell didn't live to see the great prosperity of the University. It must be remembered that all of his great fortune, in one way or another, except for some provision for his family, went to the University. He was devoted to agriculture, but could never confine his view to agriculture alone, or to mechanical arts alone, or to engineering alone. He wanted a University. George William Curtis, in speaking of the starting of the University at the inauguration of the President, 8th of October, 1865, told this story. He was in a gathering with Mr. Cornell. The speaker made a Latin quotation. Mr. Cornell turned to him and said: "What does that mean?" Mr. Curtis translated the Latin for him. "Well," said Mr. Cornell, "I hope that when the University is established, it will be able to turn out a lot of young men who can understand Latin quotations when they hear them." Then he bought the greatest classical library in the country.

I have shown the reasons why you can be proud of the man whose name the University bears, and whose name appears on your diplomas. I can only say that I count it as the greatest honor, the greatest pleasure and satisfaction of my life, call it providential, or chance, as you please, that I happened to be associated with him in the beginning and early work of this University. My only regret is he did not live to see the great prosperity to which it has at present attained.



PROFESSOR MC CANDLESS

The result was that one morning when I was in my room feeling a good deal discouraged I heard some gravel rattle on my window. It was a beautiful morning, a little later, perhaps, than six o'clock. I looked out and saw Mr. Cornell. "Come out here, and listen to the bells! There is a place here where you can hear the bells with one ear and the echo with the other." I went out and told Mr. Cornell that it was all very well to listen to the bells, but there are the attacks, which are very hard for the University to bear. Here is another example of his foresight. "These attacks are the very best thing in the

PIONEER DAYS IN AGRICULTURE

By Isaac Phillips Roberts

Professor Emeritus of Cornell University

FORTY-ONE years ago I resigned my first professorship at the Iowa State Agricultural College and accepted a similar position at Cornell University; and on the first of February, 1874, I arrived with my family at Ithaca and set up housekeeping in

culum, we suffered a sort of social neglect and felt ourselves in an alien atmosphere.

Cornell University, as well as the new subject of "scientific agriculture," was then being attacked from every side because it was not admin-



A GROUP OF STUDENTS AND FACULTY IN FRONT OF THE OLD COLLEGE QUARTERS,
NORTH END OF MORRILL HALL

Cascadilla—a dreary stone fortress which had been built for a Sanitarium and was then used as an Apartment House. We were plain people off the prairies and possibly because of that fact but more, perhaps, because agriculture was then regarded by most of the classically educated members of the Cornell Faculty as quite unworthy of a place in education beside the traditional subjects of the curri-

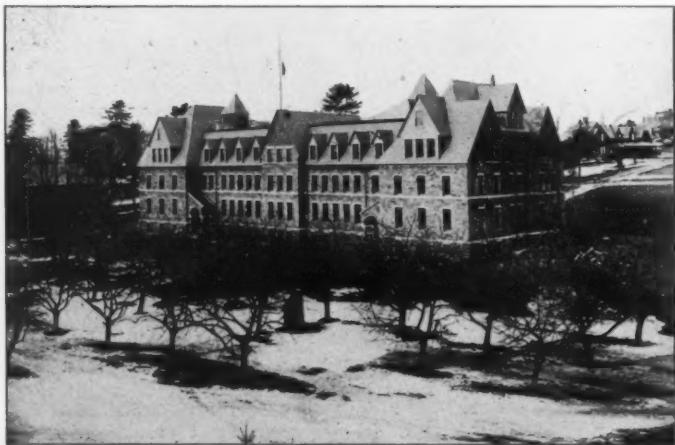
stered under religious auspices; and because the President had selected a corps of scientific lecturers who valued truth more than legend. One religious journal, I remember, called the University "a school where hayseeds and greasy mechanics were taught to hoe potatoes, pitch manure and be dry nurses to steam engines." Another dubbed it "a Godless, freshwater college planted in Ezra Cornell's potato

patch." To me, coming from the more liberal atmosphere of the West, this violence of feeling was astounding.

In the Department of Agriculture there were then three senior students who had received their technical training under my predecessor, Professor McCandless. Two of them—John L. Stone and William R. Lazenby, now

had a museum for a lecture-room and a mere half-dozen pupils.

Even more disheartening was the history of the Cornell Farm and the earlier attempts at agricultural education. The farm had first been placed in the hands of a gentleman whose delicate health required him to spend much of his time at a resort. In the



LINCOLN HALL AND THE OLD CORNELL ORCHARD

well known professors of Agriculture—and a few strays in search of a "snap," constituted my first class. As the farm was leased and did not come under my control for some months, I had plenty of time in which to realize the difference between the conditions at Cornell and those I had left in Iowa.

"From an ample farm house we came to live in three rooms in Cascadilla; instead of an 800 acre farm on which I had raised in one year, 5000 bushels of corn, I found a farm which had less than 100 acres of arable land; and instead of a herd of 100 cattle representing four different breeds, I found twelve miserable cows. I had been accustomed to setting at work every morning fifty to seventy-five students and now I directed three hired men; and to large classrooms and a body of enthusiastic students, where now I

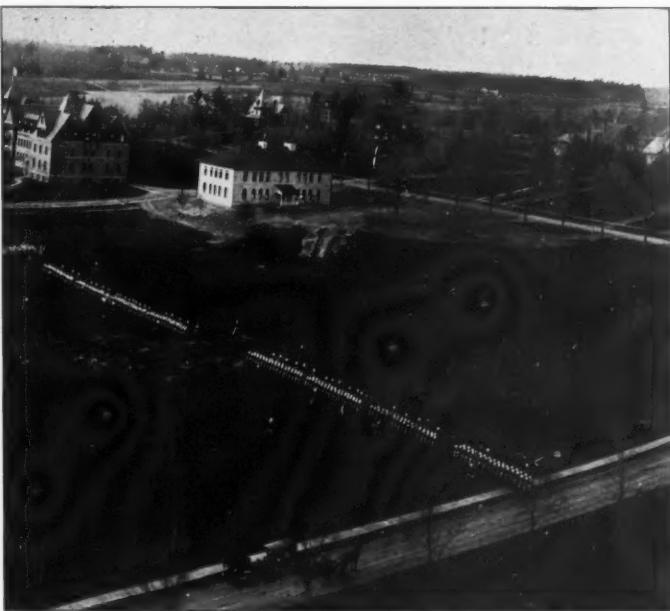
hope of obtaining better results, it had then been leased to a Cortland farmer who came to live in Cascadilla and who agreed to give the University one-third of its proceeds. The wretched condition of the farm, produced by irresponsible and absentee management, may be left to the imagination.

About 1872, President White had called to the Chair of Agriculture, Professor McCandless, a handsome Irishman from Glasnevin, who made it a condition of his acceptance that the University should build at once a large barn. Ezra Cornell, desiring to start the department properly, had provided the money for an expensive building, at the south end of the Campus on the site of the present horticultural barn. The second story of this barn was to be entered by a long causeway requiring a thousand

yards of dirt ; and one-horse Irish dump-carts were to be imported which could easily be turned round inside of the barn ! I found this barn incomplete and was obliged to finish it—all except the Causeway—but it never ceased to be a monstrosity and fortunately burned down about 1890.

Professor McCandless had already imported several hundred dollars worth of farm implements, queer, foreign machines, quite useless in the United States. All that were not

dishonesty and there was nothing left of the ten thousand dollar appropriation with which I was supposed to begin. Vice-president Russell confessed that there was nothing he so much dreaded as to have a farmer drop in and ask to be shown over "the model farm." When I realized the prejudice to be overcome and the lack of sympathy and of resources, I determined that unless many things came to pass and those quickly, I would return to the West.



LINCOLN HALL AND THE DAIRY BUILDING BEFORE GOLDWIN SMITH WAS BUILT

burned up with the Irish barn were ultimately placed in the Agricultural Museum among the other antiquities.

Although New York was my native state, I came back to it from Iowa where things were being done in a larger way ; and although Cornell was founded upon the broadest lines, it was as yet undeveloped ; thus, I set my expectations too high. The Farm, so far from being a model, was under the shadow of mismanagement and

The one inspiration I found in my department was Dr. James Law, a young Scotchman who had been brought over to be head of the Veterinary Department, a college which has now become one of the best in America. Since to complain would not help matters, I set to work to eradicate filth and disease from the dairy, to repair buildings and fences, and to clean up the farm generally. And quite to my surprise, things began

to happen which made the situation more tolerable. In 1874-5 both Professor Caldwell and myself were raised to full professorships, which showed that our work was being appreciated. From the beginning, President White took the greatest interest in the department and with this encouragement I gradually gave up my determination to go back to Iowa.

Cornell was then attempting to do a wholly new thing, the possibilities of which appealed to my imagination; and I cast in my lot with it that I might have a share in building the college of my dreams. With the help of my colleagues in the department I began to make a far-reaching plan which, though afterward altered and enlarged, was never lost sight of. But while we laid the foundations of a college such as had never been conceived, our days were filled with laborious details.

In April, 1874, I filed with the University Treasurer, the first inventory ever made by any of the departments; and that year I introduced the system of farm accounts which, I believe, is still substantially retained. I began at once to make the several divisions of the farm as creditable and remunerative as possible. For instance: there were twelve milch cows that had among them only twenty-two milkable teats, and some of them were infected with tuberculosis. With the aid of Dr. Law we cleaned those Augean stables; but just then, as fate would have it, a wealthy friend of one of the Trustees gave us some Jerseys—but they also were infected and once more we cleaned those stables. In fact, this happened again and it was many years before the menace was absolutely removed.

About 1877 or 1878 we bought a few Holsteins from the Boston herd owned by the Chenerys—the first to be brought into New York. In those days Shorthorns were "all the rage" because the Eighth Duchess of Geneva, a Shorthorn cow, had sold at New York Mills for \$40,600 to be exported to England. My heresy in

buying Holsteins nearly cost me my job and it was a long time before the prejudice against them died out.

There was also on the farm when I went there, a stallion of noted Arabian blood which was valued at fifteen thousand dollars. He had not been out of his stall for two years and although he was the sire of a few colts, they did not have legs enough to carry the curbs, ring-bones, spavins and deformities which he was capable of transmitting. When we finally got that Arab of the Desert out of his stall and rode him, he fell dead!

The earlier years are, in my memory, filled with interminable toil. Removing hundreds of loads of stone from the fields that are now devoted to athletics; manuring the worn-out lands; experimenting with crops and methods; creating an *esprit de corps* among teachers, students and hired men; and going about among the successful New York farmers to appraise their methods and learn their secrets. For it must be remembered that all my early adult years has been spent in the West and so I had to re-learn farming under eastern conditions.

During all this period the farm was held to serve two purposes; it was to serve as a model but at the same time it was to be used as a practicable laboratory for investigation and instruction. Since the number of students was small, the farm had to be our chief reliance in building up the reputation of the Department. At that time the business men who constituted the Board of Trustees did not take much interest in it, so little indeed, that when they made an "appropriation" for the farm they always expected it to be paid back out of the income. It was far easier to convince the farmers that the department was capable of becoming a great factor in the uplift of their calling, than to convince the Trustees of its importance.

The establishment of the State Experiment Station at Geneva instead of at Ithaca was a great disappointment,

but afterward, when the Federal Station was placed at Cornell, it appeared that there was room enough for two in so great a State. We nevertheless went on with our researches and published the results in three good sized bulletins (1879-1885), the expense of printing being borne by that generous woman, Jennie McGraw Fiske.

Space does not permit me to go into the details of mistakes, nor of the successes which won the respect of the farmers and which finally won the support of the University authorities; nor of our struggle to raise the entrance requirements and the courses to the standards of the classical departments; for I was convinced that

this was necessary to give agriculture its proper place in higher education. At the same time we were constantly harping on the principle that students could truly know things only by doing them, although for a long time we were obliged to graduate some students who had no acquaintance with farm practice. Even yet, I suppose, agricultural students seldom have enough practical knowledge of farming to assimilate the scientific information which they get in college. But, at the end as at the beginning of the pioneer days of agricultural science, I still believe that the way to learn one part of agriculture, perhaps the most important part, is to *do* farming.

THE LATER FINANCIAL AND PHYSICAL DEVELOPMENT OF THE COLLEGE OF AGRICULTURE

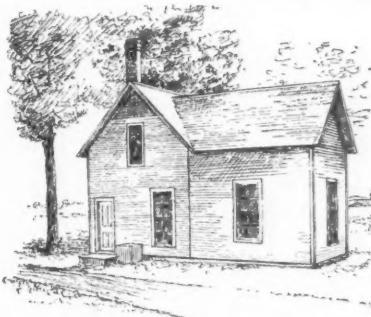
By Dr. L. H. Bailey

THE College of Agriculture had come to the end, apparently, of its financial growth. The funds accruing from the Federal Experiment Station Act had been organized for experiment and research; the funds of the University were not growing. Persons with money to bestow for education had not learned the needs of agriculture. Students were increasing, new problems were rapidly arising, the people of the state were asking for help, the field of education by means of agriculture was expanding in men's minds.

Director Roberts had foresight of a great college of agriculture. He used to say that it would one day be the largest college in the University. Those were days of large faith. The college must do a peculiarly public work. The state must come to its support. The situation demanded it, and the original land-grant relation with the state implied it.

It was at this point that a change took place in the organization of the college. It was the privilege of the

new administration to take up Director Roberts' plan of state cooperation. The members of the small and



THE FIRST DAIRY HOUSE

This stood between the present sites of Bailey Hall and the Home Economics Building. hard-working staff had been his students or associates; some of them had been both. He had already presented the question of State aid to the legislature. He had laid a good foundation in the careful and conscientious work of the college, and he had held

the work for agriculture. The rural people had the utmost confidence in him. His patient and wise direction in the beginning of things and in the small days—which are really the difficult and essential days—made possible the college of today.

When it was proposed that the legislature erect a building, the subject of agricultural education of college grade received widespread discussion in the state. The people became much interested. The result was the establishment in 1904 of the New York

from the old campus, to the eastward of the Veterinary College which theretofore had marked the remote boundary. The new site was an open field, used for field crops and test-plots. It was still a part of the old farm of Ezra Cornell, but all farming work is now conducted on areas that lie beyond the boundaries of the founder's gift. The College had only the dairy building on the regular campus, and this is now the north wing of Goldwin Smith Hall; and its other work had been scattered in several buildings



THE FIRST BUILDING OF THE COLLEGE OF AGRICULTURE, KNOWN AS THE DAIRY BUILDING,
NOW NORTH WING OF GOLDWIN SMITH HALL.

State College of Agriculture at Cornell University. It was probably the latest college of agriculture in the Union to be organized on a state basis.

The first appropriation was \$250,000 for the erection of a building. That building is now appropriately called Roberts Hall. The act making the appropriation also established the college as a state institution. The act was Chapter 655 of the laws of 1904.

With the appropriation of funds for buildings, it was necessary to choose a site. The College was removed

and one of the offices had been downtown.

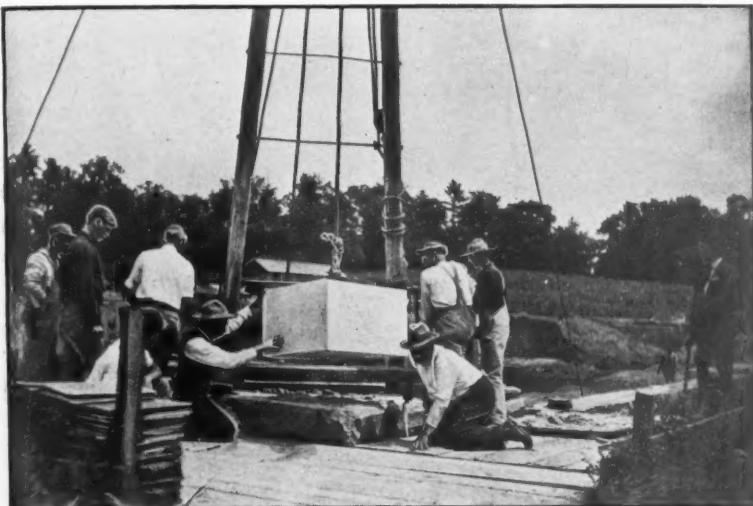
Two years later the administration act was passed. It defined the purpose of the College, and laid out its plan in the three functions of college teaching, research, and extension teaching. This was an early expression in legal form of the field and scope of a college of Agriculture. And in this year, 1906, the first regular maintenance appropriation was made to the College. It was \$100,000.

From this time the financial support

and physical equipment of the institution grew steadily. In the spring of 1907, the original building of the

ized to take its place with all the others in a new enterprise.

In 1907, the state made an appro-



LAYING THE CORNER STONE OF ROBERTS HALL.

State group (Roberts Hall) was dedicated, although a part of the building had been in use the preceding winter. With the enlargement of the scope, the problems began to increase. It was not the problem merely of increasing facilities and enlarging the space, but of building a new institution. The faculty began to increase and every department had to be separately organ-

priation of \$50,000 for the completion of the equipment of the buildings, and \$25,000 for barns. In this year, also the maintenance from the State reached \$150,000.

The following year the regular maintenance remained the same; other appropriations were \$30,000 for greenhouses, and \$10,000 for extension work.



CENTRAL GROUP OF THE COLLEGE OF AGRICULTURE UNDER CONSTRUCTION

In 1909, the regular State maintenance reached \$175,000; the \$10,000 was again appropriated for extension work.

The growth of the College in students and in its investigation and extension work now raised difficult problems. The financial income and the equipment were not increasing fast enough to meet the necessities. The people were ready for a comprehensive plan. Under the leadership of H. J. Webber, Acting-Director, a plan embodying the needs of the College (with which was also included the Veterinary College) for a period of years was presented to the legislature. It was an admirable outline. The institution proceeded to develop on this basis.

The maintenance appropriation reached in round figures a half million dollars.

Under the guidance of Acting-Director Stocking, the development made substantial gains in 1914, the plans for a large plant industrybuilding being authorized by the Legislature.

In the meantime, lands were purchased; the new farms were put into regular rotation plans as far as practicable; an orchard of many fruits was planted, and land secured for vegetable-gardening and floriculture. A farm for poultry was purchased. A large area was set aside for experiments, and the necessary small buildings and permanent equipments were secured or begun. Old farm buildings have been overhauled and re-



OLD NORTH BARN—POULTRY HOUSES TO THE EAST.

In the year 1910, the regular State maintenance reached \$200,000; the funds for extension work were \$12,000. Provision was made for beginning an auditorium, poultry husbandry building, and home economics building. In 1911, the first appropriation was secured for a heating plant, and \$20,000 for a barn. The maintenance reached \$225,000; and other appropriations were made for specific purposes. In 1912, the two animal husbandry buildings were authorized; also the forestry building and what is now the soils building; and appropriations were made for equipments and other purposes. In 1913, appropriations were made for greenhouse extension, for barns, for school-house, for extension of poultry plant, for additional equipment and other additions.

paired. Roads and bridges have been constructed. Fences have been put in repair. Wells have been sunk. Much of the land has been drained. Forest areas have been put under careful management. Trees have been planted, much grading has been done, and the grounds begin to assume their permanent character.

The equipment of farm tools, machinery and appliances has extended steadily. So have the herds and the flocks, and the new lands have become closely populated.

This growth has been the result of hard work by all members of the staff. They have all been devoted to the enterprise. They have been pioneering. The College will continue to grow in financial support and equipment.

THE NEW YORK STATE COLLEGE OF AGRICULTURE IN ITS RELATION TO AGRICULTURAL PROGRESS IN THE UNITED STATES

By Dr. A. C. True

Chief of Experiment Stations, Washington, D. C.

THOSE who in the early days of agricultural developments in this country sought to bring science to the aid of the oldest and most important of the arts had little popular support or scholastic standing. They had to win both under rather discouraging circumstances. They, however, set high standards and clung to high ideals and in the end had the satisfaction of seeing these generally recognized as the only sure basis for agricultural progress.

The struggle to establish a worthy, useful, and permanent system of agricultural education and research in the United States has furnished striking evidence of the fact that an institution, enterprise, or movement which is not inspired by high ideals and does not in some way appeal to the imagination will fall far short of its greatest accomplishment, and further, that education which does not dignify and render attractive whatever subject it deals with will not attain its greatest usefulness.

The New York State College of Agriculture was among the first to make its influence felt in the new field of agricultural education and research and has maintained a position of leadership in the movement which has contributed much to agricultural progress in the Nation. It has been able to do this largely because it has stood for high ideals even when these were very difficult to maintain, has made the possibilities of agriculture and country life appeal to the popular imagination, and has trained men not only to teach and investigate but to inspire and uplift.

The institution has probably exerted its greatest influence upon the agricultural progress of the country

through the trained men who have gone out from it and have become identified with agricultural work in all of its phases and in all parts of the country. These men are found as leaders in the activities of the U. S. Department of Agriculture and the State agricultural colleges and experiment stations and as successful managers of agricultural enterprises of various kinds. Their influence is therefore widespread and profound. In whatever activities they have been engaged they have as a rule brought to them, in addition to expert knowledge and skill, a certain breadth of vision, clearness of insight, and idealism which has dignified their work and made it more effective for practical good. Their work and influence have contributed to promote good citizenship as well as good farming and so enriched the common life of the country.

As agricultural education and research developed, advanced training in agriculture and the fundamental sciences on which it rests became an urgent need. Cornell University was among the first to realize this and has taken a prominent part in the organization of post-graduate work to supply this advanced training. It is also of interest to note in this connection that the university was one of the first institutions in the country to make definite provision for instruction and investigation in forestry.

The New York State College of Agriculture was a pioneer and has continued to be a leader in the great agricultural extension movement which has recently culminated in the passage of the Smith-Lever Act, which makes extension work national in scope and plan and seeks to coordinate and in-

crease the efficiency of all of the agencies and forces engaged in such work. The agricultural extension work of Cornell began to take definite shape in 1894, but was at that time limited in scope and local in application. Later, in 1897, it was broadened to provide for "the promotion of agricultural knowledge" in the State as a whole. It is interesting to note that this earlier work included most of the essential features of extension activities which later experience has proved to be most efficient, namely, local demonstration, itinerant lectures and schools, correspondence schools and reading courses, and popular bulletins.

A library of the best agricultural literature the world has ever seen has emanated from Cornell. The history of this phenomenal literary output goes back many years. It may be fairly said to have begun with the first, and for many years the only, textbook on agriculture in this country, which was written by Dr. G. C. Caldwell. The appearance of this book is of special significance historically because in its earlier stages of development agricultural research was almost exclusively based on chemistry, and chemists were as a rule the pioneers in such research in America as abroad. Suitable English texts for teaching this fundamental science as applied to agriculture were, however, not available. There is no doubt that this work did much to give form and force to agricultural instruction and research and thus contributed greatly to agricultural progress in the United States. One of the first American books of high authority and influence regarding animal diseases was the product of Dr. James Law of Cornell. These books, however, were but the

forerunners of others either actually written by Cornell men or inspired from the source which has supplied America a permanent literature of agriculture of extraordinary completeness, reliability, and adaptation to the needs and conditions of the country. It is not possible to estimate the influence of this literature upon the progress of agriculture.

These are some of the larger forces set in motion at the New York State College of Agriculture which have had a nation-wide influence. Among the activities lying back of these larger forces which have tended to encourage and point the way to sound methods of education and research are included the early work in economic entomology by Comstock and his associates; the systematic horticultural studies, plant breeding, and forcing-house work of Bailey and his associates; investigations in dairying by Wing and others; demonstration of efficient means of spraying for insect pests and plant diseases; investigations on animal diseases; and investigations on the best methods of preservation and use of manure. Among important lines of work more recently strongly developed in this institution are soil investigations, poultry investigations, and farm management studies.

To sum up, the New York State College of Agriculture has been very influential in promoting agricultural progress in the United States by supplying highly trained men to serve as leaders and by setting at work influences and forces and spreading broadcast knowledge which tend to make farming more profitable and country life more attractive and more satisfying.

THE DEVELOPMENT OF THE FACULTY

By Andrew J. Lamoureux, '74

Librarian, College of Agriculture, Cornell University

FOR the first 28 years of its existence, from 1868 to 1896, the New York State College of Agriculture, as we now call it, was an integral part of Cornell University, supported from its funds, administered by its trustees, and governed by its executive officers and faculty. It was described as a "college" in the *University Register* and, in common with other departments, or "colleges", was provided with a "special faculty", but the college had no real existence and its faculty was nothing more than a committee. In his report for the year 1886-87 President Adams recommended the use of the word college in connection with the agricultural department of the University because it had been necessary to organize no less than six departments within it to meet the requirements of instruction under the new federal laws. A distinct faculty, however, was not provided for until 1896.

Under the conditions of the Morrill Land Grant Act and the gift of Ezra Cornell, the University trustees were compelled to provide instruction in agriculture, mechanic arts, and military science at once. It was comparatively easy to find teachers in all branches of knowledge of the ordinary college curriculum, but in agriculture and mechanics the fields were so new that instructors were uncommon. The University administration did the best it could, and covered its disappointments with temporary expedients that were almost worthy of perpetuation. It must be remembered that agricultural education was then in its infancy, that it lacked organization, and that it had very little of the experimental knowledge now provided us, to work with. The oldest of our agricultural colleges, Michigan, was opened in 1857, only eleven years before instructional work was begun at Cornell.

Less than half a dozen schools and colleges in this country were teaching the subject intelligently, and it was a rare thing to find a man devoted to teaching a subject so little in demand. It must be remembered, also, that the farmer of that day, with rare exceptions, had no faith in "book farming" and no wish to send his son to an agricultural school. Agricultural teachers were accordingly scarce, and President White was compelled to make use of men whose work in other fields touched upon the fundamental bases of agriculture. Botany was accordingly enlisted in the cause with horticulture and arboriculture added to its title, chemistry was made to serve through



J. L. STONE, '74

its new offspring "agricultural chemistry", geology was provided with a similar derivative, and even zoology was expected to give the student a good start in stock-breeding. The

first two issues of the *Register* announced that the chair of practical and experimental agriculture would be filled by Joseph Harris, a well known agricultural editor of that day,



PROFESSOR BURT G. WILDER

but he never put in an appearance. Finally an assistant professor was found who was willing to teach agriculture on a worn-out farm with indifferent buildings and practically no equipment, and then the first "special faculty" of this new department was composed as follows:

The President, *ex-officio*,
George C. Caldwell, S.B., Ph.D., dean,
Agricultural Chemistry,
John Stanton Gould, (*non-resident*),
Mechanics applied to Agriculture,
Charles Fred. Hartt, M.S., General Economic and Agricultural Geology,
James Law, F.R.V.C., Veterinary Medicine and Surgery,
Albert N. Prentiss, M.S., Botany, Horticulture, and Arboriculture,
Lewis Spaulding, S.B., Agriculture and Director of the Farm,
Burt G. Wilder, B.S., M.D., Comparative Anatomy and Zoology.

Of these much might be said, for, with but one exception, they were prominent and influential members of the University faculty and rendered invaluable services in its development. Professor Caldwell served the University and its department of agriculture for 35 years and was one of its most useful and highly esteemed instruc-

tors. He retired from active service in 1902 and died four years later. John Stanton Gould was one of the strong men of New York, who helped to promote the welfare of the University in its early years. He was a practical farmer, a man of sound learning and varied experience, and a lecturer of rare merit. He was one of the University's non-resident professors, and the first one of that class to lecture on an agricultural subject. Professor Hartt was abroad much of the time during those years and died in Brazil in 1878. Professor Law, a graduate of some of the best veterinary schools of Scotland, England and France, was perhaps one of the best equipped teachers of veterinary science of his day. He entered upon his duties here in 1868, without a clinical theatre for his classes and with a discouragingly meagre equipment, and continued at his post until 1908, when he retired with 40 years of service to his credit. He was a member of the agricultural faculty until 1896, when



PROFESSOR C. V. RILEY, ENTOMOLOGY

he became director of the new State Veterinary College. Professor Prentiss was another one of those quiet, stu-

dious teachers who did much for the educational welfare of the University without having it announced from the housetops. Although the greater part

early day. The extent to which this important work had been carried is shown in Professor Dudley's report for 1890. Professor Prentiss retired



LIBERTY HYDE BAILEY, DEAN 1903-1913

Photo by Robinson

of this time was given to instruction in general botany, he found time to create a sub-department of crypto-gamic botany which, under the direction of one of his most gifted graduates, William Russell Dudley, began investigating plant diseases at a very

in 1895 because of illness and died the succeeding year. Professor Wilder was eminent in his department, and undoubtedly found some means to make his instruction apply to animal husbandry. He was a man of varied gifts and was excelled by very few as



H. J. WEBBER, ACTING DIRECTOR 1909-1910
 a scientist and teacher. In one noteworthy particular, he rendered a most important service to the future College of Agriculture. In 1872 he assisted one of his favorite pupils, John Henry Comstock, to initiate instruction in entomology, which was the beginning of what is now one of the greatest entomological schools in this country. Professor Wilder retired from active work in the University in 1910. Professor Spaulding, whose task was perhaps the most difficult of all, because he had to organize work in a new field and in doing so was expected to satisfy the legitimate expectations of every one concerned in the creation of the University, retired at the end of his first year.

There was an empty chair of agriculture the following year, and the Trustees met the emergency by engaging a number of non-resident lecturers to discuss various agricultural subjects. Among these, Dr. F. M. Hexamer delivered three lectures on the "Potato;" J. J. Gregory three,

on "Market Gardening;" A. S. Fuller four, on "Small Fruits;" J. J. Thomas four, on "Large Fruits;" J. S. Gould twelve, on "Agricultural Implements;" X. A. Willard twelve, on "Dairy Economy;" H. S. Randall fourteen, on "Sheep Husbandry;" L. F. Allen two, on "Management of Cattle;" C. V. Riley twelve, on "Economic Entomology;" and E. W. Stewart two, on "Feeding Cattle." The field was well covered for that day, and the lectures were continued through another year.

The year 1871-72 found Professor Henry H. McCandless, of the Royal Agricultural College of Glasnevin, Ireland, in the chair of agriculture, and hopes were entertained that he would be able to satisfy expectations, but the situation was too complicated for him and he retired at the end of the year. The next choice was more fortunate. Isaac Phillips Roberts



W. A. STOCKING, ACTING DIRECTOR 1913-1914

was elected assistant professor of agriculture in 1872-73, and remained at the head of that department as professor, director and dean for a period of 30 years, retiring from active work in 1903. Under his supervision the farm was made productive, the courses of instruction were systematized and extended, and new departments were organized.

The following year (1874-75) found three Cornell graduates at work as instructors, W. R. Dudley in crypto-gamic botany, J. H. Comstock in economic entomology, and W. R. Lazenby in horticulture. The first two were made assistant professors in 1876 and the last in 1879. William S. Barnard was added to the entomological staff in 1879, Professor Comstock having accepted a government appointment, and in 1881 Professor Lazenby resigned to accept a better position in the Ohio State University. Professor Dudley continued at Cornell until 1892, when he resigned to accept the chair of botany in Leland Stanford University. The vacancy in the geological department occasioned by the death of Professor Hartt was filled in 1879 by the appointment of Samuel Gardner Williams who became a member of the agricultural faculty.

In 1879 the University established an experiment station in connection with its agricultural department and some minor appointments resulted, owing to increased work. In 1888 this station was merged in the federal station located at Cornell under the Hatch Act, and from this time the growth of the department has been phenomenal, especially since it became a state institution in 1904.

In 1888 Liberty Hyde Bailey was added to the agricultural staff as professor of "general and experimental horticulture." This was the first of the "dividing up" measures that has been so characteristic a feature in Director Bailey's administration. Professor Prentiss's old chair of "botany, horticulture and abori-

culture" is now represented by no less than seven departments and one sub-department, and Professor Wilder's course in "comparative anatomy and zoology," by four departments and two sub-departments, with another in process of formation (fish culture). Professor Bailey's appointment was another most fortunate event for the College from every point of view. He was both a great teacher and a great organizer, and when he was chosen to succeed Director Roberts in 1903, his influence in the State enabled him to secure the legislative aid that has contributed so largely to the recent growth of the College.



B. T. GALLOWAY, PRESENT DEAN

Space will not permit the personal mention of all the instructors who have formed part of the agricultural staff since 1888. Professor H. H. Wing came to the experiment station in 1888 as deputy director and secretary, was made assistant professor of "dairy husbandry" in 1890, and professor of "animal industry and dairy husbandry" in 1901. In 1903 the dairy department was detached with Professor R. A. Pearson in charge, who was succeeded in 1909 by Pro-

essor W. A. Stocking, Jr., who had joined the staff in 1906. Professor J. E. Rice was an assistant in 1890 and began instruction in poultry culture in 1891. Professor M. V. Slingerland began a long and most useful career in 1893 as an assistant in entomology, which ended with his death in 1909. Professor G. W. Cavanaugh was made an assistant in chemistry in 1891 and is now chief of the department of agricultural chemistry. A. D. McGillivray and K. M. Wie-

and resigned in 1906 to accept a better position elsewhere. In 1903 also Professor John Craig was chosen to succeed Director Bailey in the department of horticulture and held that position until his death in 1912. G. F. Warren joined the staff in 1906 as assistant professor of agronomy and is now at the head of the new department of farm management. In 1905, E. O. Pippin joined the staff as an assistant professor, and M. W. Harper, W. C. Baker and C. H. Tuck as assistants.

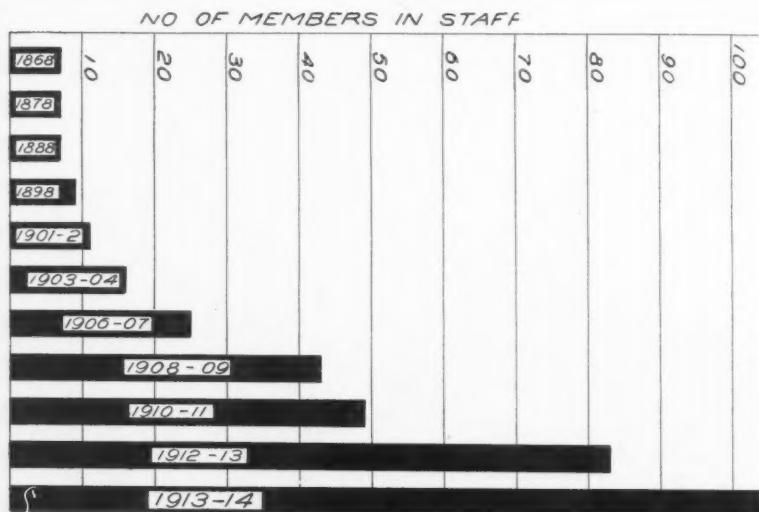


CHART SHOWING THE INCREASE IN NUMBERS OF THE FACULTY

The figures include professors, assistant professors and instructors.

gand were made assistants in 1894, B. M. Duggar in 1896, J. L. Stone and G. N. Lauman in 1897, W. A. Riley in 1898, J. A. Bizzell and H. H. Whetzel in 1903, C. S. Wilson and D. Reddick in 1905, H. E. Ross in 1906, E. S. Savage, L. Knudson, L. J. Cross, H. H. Love and A. W. Gilbert in 1908. In 1903 T. F. Hunt was appointed professor of agronomy

In the following year T. L. Lyon began his work in soil investigation, and M. W. Wilson initiated instruction in meteorology. H. J. Webber took charge of plant breeding work in 1907, and H. W. Riley and Miss Flora Rose began work in farm engineering and home economics the same year. The names of A. R. Mann, M. F. Barrus and E. S. Guthrie were added in 1908,

G. W. Herrick, K. C. Livermore and F. A. Wheeler in 1909, Paul Work and A. C. Beal in 1910, E. G. Montgomery, Walter Mulford, and E. G. Davis in 1911, S. N. Spring in 1912, E. A. White and R. S. Hosmer in 1913, and R. A. Emerson and G. A. Works in 1914.

In addition to these, special mention should be made of the services of Mrs. A. B. Comstock whose work in nature study dates from 1903, of Miss

A. G. McCloskey whose work in nature study and rural education dates from 1899, and of Miss Martha Van Rensselaer who was supervisor of reading courses in 1903 and professor of home economics since 1910. Mention should also be made of the invaluable services of John W. Spencer in the cause of rural education, and of Charles E. Hunn, horticulturist and head gardener of the experiment station and college.

THE DEVELOPMENT OF THE EXPERIMENT STATION

By John H. Comstock, '74

Professor of Entomology, Cornell University

WHEN one speaks of the "Experiment Station" reference is usually made to the existing division of the College of Agriculture that is supported by the Federal Government, under the provisions of that law commonly known as the Hatch Act of 1887. But to discuss in an adequate manner the development of this division of our College one must give account of events that occurred long before the passage of that Act. It is necessary to go back nearly to the beginning of the existence of Experiment Stations in this country.

The first Experiment Station in the United States was established at Middletown, Connecticut, in 1875. Four years later, in February, 1879, "The Cornell University Experiment Station," of which the existing Experiment Station is a direct descendent, was established.

The movement to establish this Station originated in the Faculty of Agriculture; the members of which were familiar with the important results obtained by Lowes and Gilbert at Rothamsted, England, and by the Experiment Stations in Germany, and were anxious to take part in promoting similar work in this country.

It was felt at the outset that the

efficiency of such a station here would be greatly augmented by enlisting the sympathy and cooperation of the leading agriculturists of the State. To this end the *Board of Control* of the Station included the Faculty of Agriculture, a very small body in those days, and delegates—one each—from the State Agricultural Society, State Grange, State Dairymen's Associations, Western New York Farmers' Club, Elmira Farmers' Club, American Institute Farmers' Club and the Ithaca Farmers' Club.

At the first annual meeting of the Board of Control, held at Cornell University, June 20, 1879, the following officers were elected:

President—Professor I. P. Roberts.
Director—Professor G. C. Caldwell,
Treasurer—Prof. A. N. Prentiss,
Secretary—Prof. W. R. Lazenby.

In May, 1880, the First Annual Report of this Station was published. This is a volume of 133 pages, and contains contributions from each of the officers named above and from Professor L. B. Arnold, Dr. S. M. Babcock, Professor W. S. Barnard, Miss J. Chevalier, and Professor James Law.

All of this work was volunteer work. The only funds at the dis-

posal of the Station during the first year was the sum of two hundred and fifty dollars given by Miss Jennie McGraw for the printing of the annual report.

The second report of this station appeared in 1883. This is a volume of 162 pages. During the period covered by this report a salaried chemist was employed; the Trustees of the University having appropriated for the use of the Station \$1,000 for the year 1881-2 and \$1,145 for the year 1882-3.

The hoped-for cooperation of the various agricultural societies in the management of the Station was not realized; and it is stated in the Preface to this second report that: "The Board of Control of the Station at present consists essentially of the Agricultural Faculty of the Uni-

Station was so great that they were soon out of print; and consequently the University published in the winter of 1886-7 a volume of selected papers from them, under the title of "Studies in Practical Agriculture."

This concluded the activities of our first Experiment Station as such; for in the following spring, March 2, 1887, the Hatch Act was passed. This gave the little corps of workers, who had been giving voluntarily to the work of the Station what time they could spare from their teaching work, and this without financial assistance, except for the services of a chemist, assurance that the work could be carried on in a manner more adequate to the needs of the occasion. Funds were to be available for the enlarging of the staff and for the maintenance of the work.

A very important result of the existence of our first Experiment Station was the fact that at the passage of the Hatch Act there was already in existence here an organization fitted, by several years of experience, to take up the work of a Federal Experiment Station without delay, and with very definite ideas as to the nature of the work to be done.

The work of reorganization proceeded as follows: On July 19, 1887, the Executive Committee of the Board of Trustees requested the President of the University and the Faculty of Agriculture to prepare plans for the organization of an Agricultural Experiment Station, in fulfillment of the requirements of the Hatch Bill, and report at the October meeting of the Board.

In response to this request the committee, consisting of President Adams and Professors Roberts, Caldwell, Prentiss, Comstock, and Williams, made an extended report in which was narrated the functions of an Agricultural College and a discussion of the best way to carry out the purposes of the Hatch Act.

In reviewing the equipment of men and means for carrying on the work



G. C. CALDWELL, PROFESSOR OF AGRICULTURAL CHEMISTRY, AND FIRST DIRECTOR
versity, with Professor I. P. Roberts,
as President of the Board, and
Professor G. C. Caldwell as Director."

The third, and last, report of the Cornell University Experiment Station was published in 1885 and consisted chiefly of papers by Professor Roberts and Dr. Caldwell. The University continued its aid to the Station by appropriating the sum of \$750 for the services of a chemist in 1883-4.

The demand for the reports of this



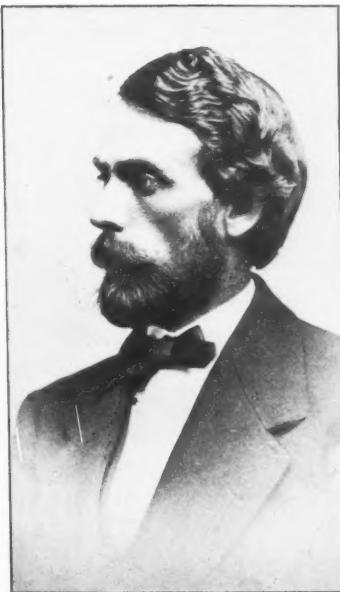
PROFESSOR W. R. LAZENBY

of the Station the committee reported that in all departments of instruction in Agriculture, with a single exception, the University was well equipped. The one exception was the department of Horticulture, which at that time was merely a division of the department of Botany. For this reason the committee recommended the appointment of a Professor of Practical and Experimental Horticulture.

The committee also made a recommendation as to the constitution of an Agricultural Experiment Station Council, suggesting that the Council "consist of the President of the University; two other members of the Board of Trustees, one of whom shall be the President of the State Agricultural Society, and one of whom shall be chosen from the Trustees residing in Ithaca; together with the heads of those departments in which the work of the Station is to be done,

viz., the Professor of Agriculture, the Professor of Agricultural Chemistry, the Professor of Veterinary Science, the Professor of Botany, the Professor of Entomology, and in case the appointments recommended are made, the Director of the Station, and the Professor of Practical and Experimental Horticulture." The report of this committee was adopted by the Board of Trustees October 26, 1887.

The first meeting of the newly established Council was held on November 24, 1887. The members of the Council from the Board of Trustees were Mr. W. A. Wadsworth, President of the State Agricultural Society and President A. D. White. The other members of the Council were President Adams, and Professors Roberts, Caldwell, Prentiss, and Comstock. At this meeting, the Council made recommendations as to the distribution of the fund of \$15,000 that was to be available, in which was included recommendations for the ap-



PROFESSOR A. N. PRENTISS

pointment of a Director, a Professor of Horticulture, and nine assistants distributed among the different departments.

The report of the Council was adopted December 16, 1887; but the completion of the organization of the Station did not take place till April 30, 1888, when the Trustees appointed the officers of the Station; and thus was launched the existing Experiment Station.



J. H. COMSTOCK, '74

At this time there remained only two months of the fiscal year during which the first annual appropriation was available. The writer remembers very vividly the activity of those two months. Each department carefully selected and secured necessary equip-

ment; and the Insectary, the first building of its kind, and for which the name Insectary was coined, was planned and built during this period.

About this time, April 14, 1888, Professor L. H. Bailey was appointed Professor of Horticulture and he took charge of the newly established department of Horticulture at the beginning of the next academic year. This position he held till the retirement of Professor Roberts in 1903, when he was made Director of the College of Agriculture.

During Professor Roberts' administration as Director of the Station a large amount of very important work was accomplished by the Station; many bulletins were published, and the extension teaching, by which the results of experiments were carried directly to the people of the State, was inaugurated.

Almost immediately after Professor Bailey became Director of the College of Agriculture, the facilities for carrying on the work of the Experiment Station were greatly improved. In the first year of his administration the University acquired the Mitchell farm, and thus was made possible the setting aside of the forty-five acres, known as the Caldwell Field, for experiments. A year later, in 1904, the New York State College of Agriculture was established, which resulted in greatly increased opportunities for research. And in 1906 the "Adams Fund" for the support of research became available.

During recent years additions have been made to the experimenting staff, which now numbers thirty-nine; nearly all of whom are of professional rank.



THE DEVELOPMENT OF THE COURSES OF INSTRUCTION

By George N. Lauman, '97

Professor of Rural Economy, Cornell University

THE courses of instruction of any institution of learning are the product of the theories of education, the number and quality of the staff and the material resources available. In the early years of Cornell the theory of what a course in agriculture should be dominated the

said, "I trust that we have made the beginning of an institution which shall bring science more directly to the aid of agriculture and other branches of productive labor. Chemistry has the same great stores of wealth in reserve for agriculture that it has lavished so profusely upon the arts.

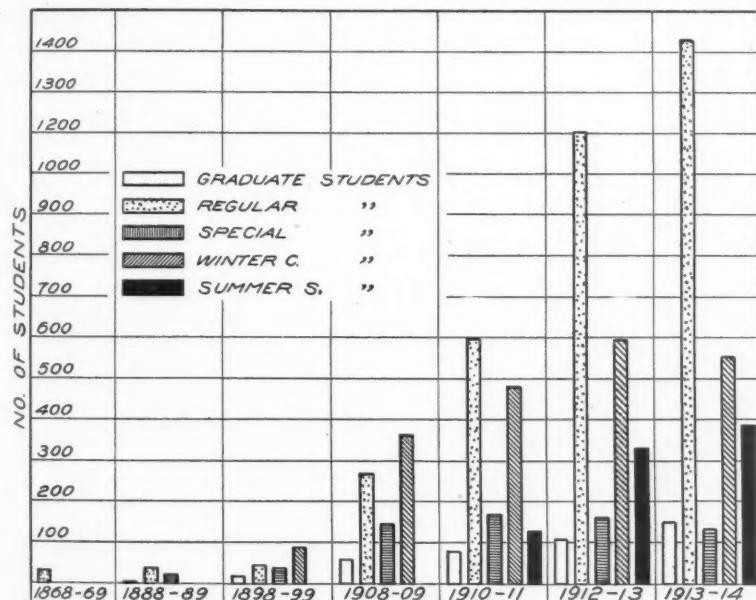


CHART SHOWING THE INCREASE IN NUMBERS OF THE STUDENTS

curriculum. Such phrases as "the close union of liberal and practical education;" the "equality between different courses of study;" "making much of scientific study," indicate the trend of the instruction and requirements for a degree which made Cornell a much talked of institution in the earlier years of its existence. More specifically Mr. Cornell at the inaugural exercises, October 7, 1868,

said, "I trust that we have made the beginning of an institution which shall bring science more directly to the aid of agriculture and other branches of productive labor. Chemistry has the same great stores of wealth in reserve for agriculture that it has lavished so profusely upon the arts.

the rudiments of Agriculture and the Mechanic Arts ;" again "and on that they should build, making them master farmers ; thoroughly based in science bearing on Agriculture ; thoroughly trained in the arts bearing on Agriculture ;" and finally "send forth every year a brood of apostles of improved Agriculture—apostles

Second Year.—Fall Trimester.—Chemistry ; English literature and elocution ; Experimental mechanics ; German ; Psychology ; Vegetable physiology.

Winter Trimester.—Chemistry ; Elementary Geology ; English literature and elocution ; German ; Philosophical anatomy ; Physics.

Spring Trimester.—Acoustics and optics ; Chemistry ; Book-keeping (or laboratory practice) ; German ; Physics.



PROFESSOR ROBERTS WITH A CLASS OF STUDENTS IN THE FIELD

who shall be better scientifically, practically, economically."

What was the course outlined for students who wished a thorough foundation to follow agriculture? The first "Cornell University Register 1868-9" presents the following :

THE FULL COURSE OF TWELVE TRIMESTERS
OR FOUR YEARS.

First Year.—Fall Trimester.—Algebra ; English language and vocal culture ; French ; Human and comparative physiology.

Winter Trimester.—English language and vocal culture ; French ; German ; History ; Zoology.

Spring Trimester.—Botany ; Embryology ; English language and vocal culture ; French ; Trigonometry.

Third Year.—Fall Trimester.—Agricultural and economic botany ; Agricultural chemistry ; English literature and rhetoric ; Veterinary anatomy and physiology.

Winter Trimester.—Agricultural chemistry ; Agricultural and economic botany ; English literature and rhetoric ; Horticulture ; Veterinary medicine and surgery.

Spring Trimester.—Agricultural chemistry ; Arboriculture ; English literature and rhetoric ; Landscape gardening ; Veterinary medicine and surgery.

Fourth Year.—Fall Trimester.—Agricultural chemistry ; Agricultural geology ; Astronomy (or comparative anatomy and history) ; Practical agriculture ; Rhetoric and oratory.

Winter Trimester.—Agricultural architecture ; Agricultural technology ; Practical agriculture ; Moral philosophy and political economy ; Rhetoric and oratory.

Spring Trimester.—Agricultural mechanics; Architecture and rural economy; Practical agriculture; International and constitutional law; Meteorology.

A cursory glance at this course shows that the College of Agriculture proposed to ground its students during the first two years in the liberal arts and the fundamental sciences necessary to a well rounded development and a foundation for technical studies. The latter follow in the third and fourth years without completely occupying all the time required of the student.

This ideal course of study has lived in part through the various vicissitudes brought about by the increasing number of men on the staff and the enlargement of the material resources in late years. The future historian of the subject will have much interesting material to study in following the various vicissitudes, and in noting

the inevitable compromises which have been brought about in more than forty years.

The chief characteristic of the curriculum of today is that the courses are so numerous that no student can expect to encompass the fundamental work of every department represented in the College. It is a question whether the College makes it possible for the student to attain today the ideal previously set forth. With the splitting up of subjects has come extreme specialization and naturally this has been more pronounced in the purely technical subjects. In the materialistic modern age of the College, speaking with reference to curriculum, it is noteworthy that it is now more difficult to turn out a country gentleman in the true sense of the expression than in the days of the founders.

DEVELOPMENT OF THE GRADUATE WORK

By William A. Riley, '03

Professor of Insect Morphology and Parasitology, Cornell University

FROM the earliest days of the University, the graduate work has been under the charge of a general Faculty rather than of Departments or Colleges. To write any adequate history of the graduate work in Agriculture would therefore be to write a history of the evolution of the Graduate School, with special reference to particular lines of work,—a task for one who has witnessed and had a part in that evolution. I can only deal in a most general manner with the topic which has been assigned to me.

The second student to receive a Ph.D. degree from the University was Ansel H. Phinney, a graduate of the Michigan Agricultural College. The degree was bestowed in 1873, on the basis of work done in the Department of Chemistry, his thesis being entitled "The Action of Dilute Sulphuric Acid upon Cellulose."

However, it was not until the appearance of the tenth annual catalogue, that for 1877-78, that we find a

graduate student specifically registered for work in Agriculture. He seems to have been unappreciative of this distinction for the next year he was registered as a resident graduate in Veterinary Science, and in 1879 was granted the degree Bachelor of Veterinary Science.

In 1881-82 a second student was registered for graduate work in Agriculture but took no degree. Then came a period of seven years until, in 1888-89, two were so registered and from that date on there is to be found an unbroken and rapidly increasing number up to the present year, when there are graduate students registered as taking all or a part of their work in subjects taught in the College of Agriculture.

It must not be supposed that the two registrations prior to 1888 represented all of the graduate work in Agriculture. A number of graduate students in Botany, Chemistry, and Entomology were interested in the agricultural phases of the subjects and

under the present organization would be doing all, or the major part of their work in the College of Agriculture. The detailed statistics regarding registrations in Agriculture appear elsewhere in this number and need not be duplicated here.

In connection with the sudden growth of the graduate work in Agriculture beginning in 1888, it is significant to read in President Adams' report for that year that Mr. Liberty H. Bailey had been appointed Professor of General and Experimental Horticulture and that his course during the Winter Term "attracted much attention by its excellent characteristics, and by the interest and even en-

thusiasm which it awakened on the part of the students". No other one man has been more largely responsible for the development of graduate work in Agriculture in our University and in other institutions in this country.

In going over the available data relative to the Graduate Work of the University, one is impressed by the fact that present standards of requirements have been gradually evolved, and that the College of Agriculture of Cornell University owes its present leadership in its field to its recognition of those standards and to an earnest effort to apply them.

THE DEVELOPMENT OF THE LAND AND THE COLLEGE FARMS

By John L. Stone, '74

Professor of Farm Crops, Cornell University

As a part of his original endowment of Cornell University Ezra Cornell included a farm of 207 acres. This area is what now constitutes the principal part of the present Campus from West Avenue to the Judd Falls road just east of the new Animal Husbandry buildings. In 1873 the University purchased of Mr. Cornell the tract lying along Cascadilla Creek, 50 acres in area, and a little later purchased of the heirs of Mr. Cornell the tract between University Avenue and Fall Creek, 33 acres. Several other later purchases of adjacent lands have finally brought the area now recognized as the University Campus up to 351 acres.

Agriculture had a place in the teaching at Cornell from the first, and as the few buildings occupied but small area nearly the whole of the tract lying east of East Avenue was available for farming.

The old barns of the Cornell farm were located on the northern portion of the site now occupied by Lincoln Hall and the orchard occupied the site and front of Sibley College. In

1879 the old barn was succeeded by another located on the present site of the Home Economics building, which remained the center of the farming operations for thirty-two years, until its removal in 1911.

During the first five years of the University it is probable little use was made of the land for teaching or demonstration and certainly not for experiment, for the day of agricultural experiment had scarcely dawned in this country. At any rate, the writer, who was a student in the University part of those years, has no remembrance of such use. In the autumn of 1873, Professor I. P. Roberts (later Dean-Director) was called from Iowa to take charge of the University farm and to teach applied agriculture to the few students interested in that line of study. Immediately the land began to play a part in the teaching. The area now occupied by the College of Agriculture buildings and the Student Commons is the land upon which he farmed during the thirty years of his connection with the University. And so well did he farm it that in 1897

Ex-Director Bailey, in writing the introduction to Roberts' "Fertility of the Land," said of it, "It is the ripened judgment of the wisest farmer whom I have known."

The pressure for land for agricultural purposes was great during the later years of Director Roberts' period of service—so great that neighboring farms were worked on shares many seasons.

It was not until 1903, however, when the greater portion of the available land in the old farm was set apart for Student Commons, that additional

had now become the State College of Agriculture and the call for land for experiment, demonstration, and teaching work was very great. This resulted in another series of purchases. In the early part of 1908 there were secured the Blair farm of 111 acres (the Farm Crops plats, Pomology plats, and fields 3 and 4); the Smith-Guinip farm of 93 acres (fields 9, 10, 11, 12, and pasture D); and the Frank Cornell tract of 60 acres (field 1, 17 acres, was added to the farm, and field 15 and Arboretum, 43 acres, were added to the Campus.)



ROBERTS BARN

This was torn down to make room for the Home Economics Building

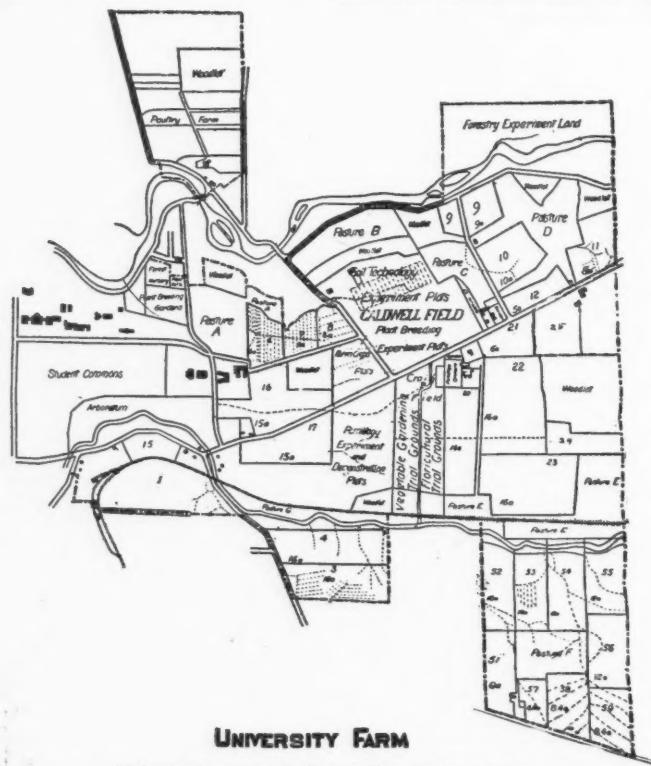
land was purchased. Then were secured in quick succession the Preswick farm of 67 acres (cultivated fields 6, 7, and 8, and pasture A on accompanying map); the Mitchell farm of 110 acres (Caldwell field and pastures B and C); and the Behrend tract, 44½ acres, (Forestry experiment land.)

These acquisitions permitted considerable increase in the farming operations, but numerous new departments were being created in what

Later in 1908 there was secured the "Southeast" farm (fields 51 to 59): the Ryan tract of 33¾ acres; the Ostrander tract of 55½ acres; and the Casey tract of 20½ acres, making a total of 129¾ acres. About 30 acres of this purchase, located on the south side of the Ellis Hollow road, were added to the Veterinary College farm (secured about the same time), bringing the area of the same up to 145 acres and leaving 100 acres to be added to the College farm. The 5

acre site occupied by the State barns was secured from the Misses Mead, and the Comstock Knoll of 3½ acres (Forestry nursery) from Professor Comstock.

These were secured chiefly for use as pasture. There was also secured from the Peter Kline estate 22 acres on the north shore of Beebe Lake, but this was not secured for farming



In 1910 the Hasbrouck farm of 52 acres came to the University by bequest and 50 acres of the same is leased to the College of Agriculture for the Poultry farm. In 1912 this tract was enlarged by securing at the northward 30 additional acres from Mr. McDaniels. In the same year the Bool farm of 50 acres was secured, the east portion being devoted to Floriculture and the west portion to Vegetable Gardening.

Early in 1914, a 30-acre hill pasture field was secured from the Cascadilla School trustees and in June the Cascadilla farm of 113 acres was added.

purposes. The last mentioned three tracts are not shown upon the map. The College also rents and uses the McGowan farms of about 121 acres (fields 20 to 25 and pasture E) and the Meade farm of 30 acres (fields 16 and 17.)

The College, then, has under its control, including the rented areas, 956 acres. Of this area about 320 acres are devoted to the growing of general farm crops; 180 acres are used by the numerous College departments for experiments, demonstrations, and teaching work; 100 acres of woodland is under the management

of the Department of Forestry; and the balance is in building sites, pasture, and rough waste land. Some of the land was in very neglected condition when secured. Part was badly encumbered with hedgerows in which thousands of loads of stone had accumulated, and very much of it needed draining to make it satisfactory.

The dotted lines on the map indicate tile drains that have been laid. Many hedgerows have been removed, and the land has been dressed with much manure drawn from the city and with more produced on the farm. The land is responding to this generous treatment. The following are the crop areas and yields of the past year.

Crops.	Area.	Products.
Hay	120 A. (including 65 tons Alfalfa) -----	400 tons
Silage	50 A. -----	522.5 tons
Roots	2½ (estimates) -----	45 tons
Wheat	44 -----	1500 bu.
Oats	38 -----	1485 bu.
Rye	4 -----	85 bu.
Buckwheat	34 -----	586 bu.
Potatoes	8 (estimated) -----	2000 bu.

The old barns on the Mitchell farm and on the Blair farm have been repaired and put in very serviceable condition. Two new barns have been built by the state—a general cattle barn that can accommodate over 100 cows or equivalent young stock in 1909 and a horse barn to hold about 80 horses and colts in 1912. Provision has also been made for a sheep barn, a pig barn and a tool barn, which have not yet been erected.

THE EXTENSION WORK AT THE COLLEGE

By Charles H. Tuck, '06

Professor of Extension Teaching, Cornell University

PRESIDENT Benjamin Ide Wheeler of the University of California has said that there is nothing new in the idea of extension work, that for more than a half century universities and colleges have felt in some way the request of the people for assistance. This assistance in a more or less organized form has been given by universities, colleges and other educational organizations in this country and Europe for many years.

But not until last winter was there any uniform national legislation in the United States. Such was secured through the passage of the Smith-Lever bill which brings federal aid for agricultural extension to the States through the Colleges. It therefore is worth while now to look back over the growth of extension work in New York.

From the early days of the Department of Agriculture at Cornell University, there was a readiness on the part of the College to assist farmers at their farms and at the College. No true professor of agriculture in those

days could well resist the demand. But no definite steps were taken toward organization until 1894 when Mr. Frederick Nixon of Westfield, N. Y., then chairman of the Ways and Means Committee of the Assembly, obtained an appropriation from the State which enabled the College to conduct extension work and to promote the horticultural interests in the western counties of the State. This was the first extension work, as such, undertaken by the College.

Mr. John Spencer of Westfield, N. Y., who was the leader of the Chautauqua Horticultural Society, was largely responsible for the initiative in this movement. He gave hearty support to the work and to the horticultural schools conducted by Professor Bailey, Mr. E. G. Lodeman, and others of the staff of the College.

This horticultural school conducted by Professor Bailey marked a new epoch in extension teaching and was the direct forerunner of the extension school of today. This embodied the ideas of consecutive teaching and

demonstration which are today so important in extension work.

In 1896, Mr. Spencer became identified with this extension enterprise at the College; he had lived in rural communities and knew their needs. He it was who first saw the need to help the teacher through printed leaflets, and later developed the plan of organizing the children of the State into Junior Naturalists Clubs. This latter phase of the movement developed into large proportions, and Mr. Spencer soon became known as the beloved "Uncle John" among the great numbers of children with whom

continued to this day, present agricultural and home economics subjects in a popular way each month and serve to stimulate reading and questions through the question papers that accompany each lesson.

Out of the movement developed the Junior Naturalist leaflets, edited by Miss Alice G. McCloskey, who is now the editor of the Rural School Leaflet. In 1899, Mrs. Mary Rogers Miller, who had done efficient teaching when representing Cornell in the State Teachers' Institutes, started the Home Nature Study Course Leaflets for the purpose of helping teachers through correspondence. In 1903, this work fell to the hands of Mrs. Anna B. Comstock, who continued it for a number of years.

The extension movement started by Mr. Nixon through the Legislature, and carried on so successfully by Professor Bailey, Mr. Spencer and others, was the real beginning of the extension work of the College. As the work developed a need was felt for extension activities along other lines. Farmers and farm women began to ask for information on the problems of the farm and home. To meet the increasing demands, larger appropriations and more experts were necessary and as these conditions have been met, the whole movement of extension teaching has developed.

In Director Roberts' report to the President of the University in 1906, mention was made of the necessity for more experts to do extension work in response to the increasing demands for instruction on agriculture from residents of the State. There was an awakening and earnest desire for instruction in rural affairs. In his report that same year Professor Bailey, then Head of the Department of Horticulture, recommended that extension work be done by other departments as well as by the Department of Horticulture.

In 1897, \$25,000 was appropriated by the State to enable the College to carry on instruction by means of schools, lectures, cooperative experi-



"UNCLE JOHN" SPENCER

he carried on correspondence. Some years as many as 30,000 children corresponded with Cornell University through Mr. Spencer's office.

Not only did Mr. Spencer start the work with the children, but also with adults through the Reading-Course for the Farm to which later was added the Reading-Course for the Farm Home under the direction of Miss Martha Van Rensselaer. These reading courses,

ments, farm advisors, reading-courses, and other University Extension methods in agriculture. This law gave a great stimulus to the extension activities of the College. In 1901, this appropriation was increased to \$35,000 and was raised to \$70,000 in 1913 but decreased to \$57,200 in 1914.

In the last ten years the whole field of agricultural education has been broadened and enlarged. The demands for instruction in agriculture have increased in number quite the same as have the applications for entrance to our state agricultural colleges.

It has become advisable to place special instructors for extension teaching in nearly all departments of the College. These persons have the usual academic titles with "extension" attached to denote relationship, as, extension professor in pomology.

Extension schools of one week in duration, the direct descendants of the horticultural schools of Professor Bailey, have been revived and extended so that today they are one of the strongest branches of extension service.

The Farmers' Institutes, with which every one in the country is familiar, have grown to a place where now these popular meetings are held in every rural county in the State. These meetings, under the direction of Mr. Edward van Alstyne of Albany, provide a medium for entertainment, social intercourse and instruction.

The latest development is the farm bureau with its county agent. The details of this organization are set forth elsewhere. The purpose is to make available for a county a trained person who will promote the best interests of the agriculture of the county through resident operation, under the direction of Professor M. C. Burritt of Ithaca. These agents are growing in number and are inciting a strong

influence on the trend of rural affairs in the counties concerned.

To recount briefly the development of extension work is easy and pleasant, to contemplate the increase of funds and facilities for the future is gratifying, but to make effective the extension teaching of the future requires patience, study and a conservatism which is best exemplified in the farmer himself. To avoid exploitation of children in spectacular crop and animal contests, to eliminate selfish publicity of commercial organizations, to courageously bar out politicians who would



C. V. LACY, '73
A member of the first graduating class
of the College of Agriculture

fatten on extension opportunities, to suppress the agricultural teacher of the "promoter type," and to train ourselves to see clearly and act effectively, constitute the problem of extension teaching in agriculture.

HOME ECONOMICS IN THE COLLEGE OF AGRICULTURE

By Martha VanRensselaer

Professor of Home Economics, Cornell University

HOME Economics in the New York State College of Agriculture began with extension through a series of pamphlets sent to farmers' wives of the State. There had been previously a Reading Course for the Farm and it was the desire of Dr. Liberty Hyde Bailey, then in charge of the extension work of the state, to offer to the farm home the same educational opportunities as had been offered to the farmer through instruction by correspondence and lectures. The work for the farm women started with a circular letter sent through the farm bulletins to the farm women with the request that they should reply if they were interested in a course parallel to that of their husbands. Two thousand replies were returned at once with the request for enrollment in what was called a Reading Course for the Farm Home.

Following the publication of the letter to the farm women and the correspondence that it called forth, a bulletin on Saving Steps was sent to the women who had expressed their interest. This bulletin was followed by one on Sanitation of the Household and a subsequent one upon Food for the Farm Family. Correspondence was begun with housewives in the State who began to use the college as a source of information. Through visits to granges, farmers' institutes and farm homes, instruction was given upon subjects relating to the management of the house. The printing of the bulletins was irregular until October, 1911, when the college was enabled to reorganize its reading courses and since that time a monthly publication called the Cornell Reading Course for the Farm Home has been issued. In the course of a few years there have been published and circulated from forty to fifty publications

upon some phase of house keeping and thousands of letters are written each year to farm women who desire special information upon topics with which they are closely connected.

As a result of the Reading Course and individual study there have been organized in various sections of the State neighborhood meetings made up of those who wish to study together subjects presented in the Reading Course lessons. This plan offered social opportunity and a subject of common interest for discussion.

After the reading courses and the reading clubs were successfully under way Dr. Bailey proposed that there be a winter course in Home Economics which would be similar to those then organized in general agriculture, horticulture, dairy industry, and poultry husbandry. The course was thrown open to the public in order to arouse an interest in the scientific side of housekeeping. There were some women from the farms attending this course but in the first year the larger number of women attending lived in the city of Ithaca. There was then no instruction in Home Economics within the university. Lecturers were sought from other universities and technical schools to give courses at the college during the winter of 1906-7 and a most unusual program was presented in this winter course.

There had never been expressed any great interest in courses in Home Economics for the registered women of the university. However, a three hour course in the College of Agriculture with university credit was offered to about fifteen registered men and women from the College of Arts and the College of Agriculture. This was in 1905-6. Permission was given by the Board of Trustees in 1907 to establish a Department of Home Eco-

nomics in the New York State College of Agriculture. Rooms were given in the east and west ends of the fourth floor of the main building of the College of Agriculture. They were attic rooms, but considered a good place for starting a piece of work which would eventually need larger quarters. For its extension and administrative work the department began with three offices and a food laboratory suitable for twenty students. Afterward a room that had formerly been used for photographic purposes was transformed into a kitchen and dining room. While these were small accommodations much of the planning and organization for the future was undertaken here.

The growth of the department as was anticipated soon necessitated larger quarters. The Legislature of 1909-10 authorized an appropriation of \$154,000 for the construction of a new Home Economics building. The new building was first used during Farmers' Week in February 1913.

Farmers' Week had become a regular event at the New York State College of Agriculture when many farmers and their wives came to the college for a week of study and conference. It was plain that something should be provided for the interest of women who were seeking to do their piece of work better. An occasional lecture was offered during the first Farmers' Week on domestic subjects and as years have passed the days of Farmers' Week have been filled with lectures, demonstrations and conferences.

The history of Home Economics has justified the effort made to start the unusual in an eastern institution. The Reading Course began with 2,000 enrollment. In 1914 after the list has been revised at various times it numbers 38,000. The clubs began with half a dozen in various parts of the state; at the present time they number over ninety, which show marked development of the in-

dividual women and the effect of their interest upon the community. Attention was given in the first two years of Farmers' Week to one or two lectures upon home-making subjects. The program of 1914, was planned for every hour of the day devoted to lectures, demonstrations and exhibits upon Domestic Science subjects. The extension schools in Home Economics had first the occasional lecture from the department in connection with the program in agriculture; in the present year there are more applications for schools than can be taken care of during the entire season and one instructor is devoting her entire time to this project. Four persons registered the first year of the organization of a course in Home Economics; the entering class of 1914-15 numbers fifty. The department now registers 250 students for the degree of B.S. while fifty more working for the degree of A.B. are electing Home Economics work. The first winter course had a registration of fourteen; the winter course of 1914, has a registration of forty, the number being limited because of the limitation of numbers on the instructing staff.

The department for its four year course embraces lectures upon foods, human nutrition, household management, house planning, house furnishing, sanitation, sewing, institution management, extension and the history of woman and her work.

The purpose of the department of Home Economics is to develop and redirect woman's work; to train her for the profession of home making and at the same time to give direction to her probable need of earning her living.

Professional opportunities are offered to the students of Home Economics in teaching, institutional management, business enterprises, designing, research, care of children and social welfare.

THE CORNELL COUNTRYMAN

FOUNDED 1903

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DR. L. H. BAILEY, Pres. E. C. HEINSOHN, Vice-Pres. A. W. WILSON, Sec'y-Treas.

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AT CORNELL UNIVERSITY, ITHACA, NEW YORK

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The Historical Number

With this issue, the COUNTRYMAN wishes to present its readers with a history of the College of Agriculture. There are many very interesting features in the early development of the College about which the students of today know nothing. As this material should be collected while the men who are most intimately acquainted with the early days of the college are still with us, the COUNTRYMAN has gathered and put into a permanent form much of the available information. In our endeavors we have been most ably assisted by our friends and to them we now wish to express our sincerest appreciation, for without their help and cooperation, our efforts would have been futile.

The ten year plan adopted by the Board of Trustees of Cornell University for the extension of the New York State College of Agriculture involves certain changes in Roberts Hall. Additions are to be placed at the west

wing and at the east wing. That portion of the building now fronting on the quadrangle is to be re-fronted so as to make a part of the quadrangle development. An item of \$75,000 has been submitted to the legislature for the erection of the west wing, for which plans have already been made. This wing will be four stories in height and will conform to the existing style of architecture.

The College of Agriculture is feeling the need of a suitable building which might be known as a Hall of Zoology and Entomology. In this building could be accommodated all the teaching and research in general zoology, systematic vertebrate zoology, and the elective work in economic ornithology, and field zoology; also all of the pure and applied entomology, limnology, parasitology, and fish culture. The Agricultural College Council and the Trustees have approved a recommendation by the Director that steps be taken to secure data which may be later submitted to the State Architect in order that he may prepare plans for such a building.

Summer School for 1915 and 1916 The Summer School of the College of Agriculture, which has been such a popular feature for the past few years, will have to be abandoned the coming year unless special provision is made for it at the forthcoming session of the State Legislature. The item for the Summer School was passed by the last legislature, but was one of those vetoed by the Governor. The Agricultural College Council has approved the recommendations of the Director of the College for two special items intended to take care of the Summer School for the years 1915 and 1916. The Trustees have also approved this item, and it will be presented to the legislature for action.

Farmers' Week Farmers' Week is coming ; it will extend from February 8-13. Are you planning to visit the College then?

Farmers of New York State, the efforts of both the faculty and students of the College are devoted during this week, entirely to your interests. You will hear lectures on the latest phases of Agriculture, you will be able to attend the conferences, you will meet many of your old friends and make many new ones, and you will have an opportunity of seeing what your College is doing for agriculture in New York State.

Former Students, can you afford to miss this chance of meeting your old class mates and professors again? Come and bring your family. Remember the dates, February 8-13. Write to the COUNTRYMAN for a Farmers' Week Souvenir, which will be sent free of charge on application.

The Agricultural Banquet On December 12th will come the annual Agricultural banquet. It will be held in the Home Economics Cafeteria and the tickets will be sold for \$1.00 per plate. The committee has been fortunate enough to secure President J. L. Snyder of the Michigan Agricultural College, East Lansing, Michigan, as principle speaker of the evening. Professor C. H. Tuck will act as toast-master. Every student who can possibly do so, should attend this banquet for it is the one big Ag. "get-together" meeting of the year and an affair which no student of the College should miss.

Short Course Students To each Short Course student, THE COUNTRYMAN extends a welcome. You who have been here before know the good things you may expect ; you who are here for the first time will soon realize that the pleasures you experience will make the twelve weeks fly. The principal purpose of your being here is to become a better farmer. All the wonderful facilities and laboratories of the College are at your disposal and the instructing force is offering you the best that they have. Your class room work, the University library, the lectures outside of your classes which are offered in the University, are open to you. Make use of them. Keep your eyes open and use your ears. Do not get it into your head that you know it all. None of us do. If you make the best of your opportunities, truly this twelve weeks will aid you in becoming a better farmer, a better citizen, and a better man.

REMINISCENCES OF EARLY CORNELL DAYS

By William R. Lazenby, '74

Professor of Ohio State University

MY earliest recollection of Cornell dates back to the Fall of 1869, I entered the University with the class of '73, but sickness in my father's family called me home about the Christmas holidays. I was unable to resume college life until September, 1870, re-entering at that time as a member of the class of '74.

My first impression of Cornell was the originality and boldness of the plan conceived and the rawness of the conditions then existing. Coming from a more nearly level and more fertile section of New York, the rough and then mainly unimproved "East Hill" looked unpromising, and the farm that our far-sighted Founder had so generously donated as a training ground in the art and science of agriculture, and a means of support for poor students, seemed impossible.

I was one of a half dozen or so, who up to that time had the faith and courage to elect the four-year course in agriculture, and one of the two who completed the course in 1874.

Prof. John Lemuel Stone, a life long friend, was the classmate, who competed with me and won the same distinction.

When we received the degree of Bachelor of Agriculture from Cornell, but one like degree had been conferred, and that was upon Charles Loudon Lacy of the class of '73.

Agriculture was not in the saddle at that time, and in the whole catalogue of human pursuits not one was so dreaded and deprecated by the average college man. It was something he didn't know, and didn't wish to know.

As a shy, country youth I was impressed, not to say overawed, by my professors. In those early days practically all the instruction and training was given by the heads of the various departments. It was our good fortune to come into close and intimate contact

with enthusiastic and inspiring teachers. How patient, how devoted, how self-sacrificing most of these men were. President White and Vice-President Russell, in spite of their administrative duties, met classes with regularity and astonishing frequency, and had a personal acquaintance with nearly every student.

I recall on one occasion during my freshman year, that two or three of us were summoned to appear before President White to answer the complaint of unsanitary, or rather uncleanly, milk furnished by the University farm to Cascadilla, where many of the professors and students boarded. As we milked the cows we were held responsible and were called upon the carpet to answer for our carelessness. We went in fear and trembling, certain that we were to lose our job, which because of its steadiness was accounted a good one, and fearing that we might be dismissed from the University.

How joyfully surprised we were when President White greeted us as cordially and courteously as if he were honored by the call. He congratulated us upon working for our own support, and said that inasmuch as we had nothing to do with the dairy management except to milk the cows we could scarcely be blamed for the uncleanliness of the milk. I am quite certain that being met in this way, there was no danger of any future delinquency on our part, however culpable we may have been heretofore.

In the early days White Hall and Morrill Hall, or as they were then known, the North, and the South Building respectively, were mainly used as dormitories, and the students who roomed therein were under a semi-military discipline. We were obliged to "fall in" at a certain hour in the morning and march in a more or less regular form to Cascadilla where we boarded. The discipline was any-

thing but strict, and the disorder in the ranks, and at the table was something that would not be tolerated in these days. In fact it was so difficult to maintain order that the military department soon asked to be relieved of all charge of the dormitories. When this was done matters improved and a more or less efficient system of self-government was obtained.

Looking back to those tumultuous scenes on the Cornell campus, and in the streets of Ithaca, the cause appears evident. Men of marked individuality, were attracted by the embry-

conventions, and are often the victims of misdirected enthusiasms. The burning of out buildings, the demolition of temporary bridges, the firing of the cannon at midnight, were protests against the supposed slackness of those in authority.

Many things were done in a mere spirit of frolic. I recall the bonfire in front of Morrill Hall. How we labored to collect the material in a huge pile reaching well up to the second story windows. How diligently we sought for barrels of tar and other inflammable substances that were being used in the construction work then in progress on the campus. How long after midnight when the fire was well started we rang out the alarm by using the great bell of the University chimes, rousing the whole town. The position of the fire and the reflection from the windows caused everyone to believe that the only completed building on the campus was burning and that the students who occupied it were entrapped and would miserably perish. The excitement, the confusion, the anxiety, cannot be described, it was a heart-breaking moment for the Founder, Ezra Cornell, for the President, Andrew D. White and many other friends of the young University. The trick was soon discovered, and possibly no great harm was done, although Dr. Wilder maintained that at least one death that occurred soon after this incident was hastened, if not directly due to the shock caused by it.

In addition to these all too frequent scenes of turbulence and disorder there was much harmless fun of a quieter sort.

I remember as well many another that David Starr Jordan, who from his recognized ability as a naturalist was called "Agassiz II," was a leader in this form of diversion.

The best students required some outlet for their pent-up enthusiasms, just as every typical boy requires some outlet for his overflowing animal spirits.

Two organizations at Cornell in



THE ARCH BUILT TO CELEBRATE THE
FIRST CREW VICTORY IN 1875

onic university. Red-blooded, adventurous, high-spirited young men made up in large part that cosmopolitan company that first besieged the doors of Cornell. Some came from the narrower sectarian colleges demanding a larger liberty of thought and action; others had caught a glimpse of the beneficent possibilities of science and were no longer satisfied with the "old education." Not a few came because here was an opportunity to earn their own support by the labor of their hands. Undoubtedly there were some that came because they were sent; for the most part however, we were a group of determined, independent, imaginative, idealistic young men. Such are not readily enslaved by petty

those early days I found signally attractive. One was the Irving Literary Society and the other was the Natural History Society. The former was burdened by debt, and for a while its life was at a low ebb, but A. J. Lamoureux, F. W. Halsey, D. E. Salmon, William Hankins, and a few others, came to the rescue and the Society took a new lease on life and became prosperous. It was an excellent school for training men to think upon their feet, and to express their thoughts with force and clearness. Such training is invaluable.

It was an inspiration to attend and take part in the meetings of the Natural History Society. Jordan, Dudley, Comstock, Kellerman, Cope-land, Barnard, Job, Lemonds, and others who became distinguished naturalists were active members. Dr. Wilder was a regular attendant, and his enthusiasm and encouragement contributed not a little to the abundant and all-inspiring success of the society.

Years ago but long after I left Cornell it was my thought that it would be a splendid thing to resurrect these two societies.

That was a mistake. The atmosphere, the conditions, the attitude, the spirit of those old days could not be replaced, and without this, these societies could not thrive. Times have changed and student organizations have changed with them. Let us hope the changes are not for the worse. The societies I have referred to are of the past. They rest in their graves. Let them rest in peace.

I was an active member in two organizations outside of the University, that did much to encourage and stimulate the feeble, flickering life of its department of agriculture.

One was the Ithaca Farmers' Club, and the other was the Ithaca Grange. A member of the latter was a representative at a meeting of the New York State Grange where a most scathing series of resolutions were presented criticizing and condemning in unmeasured terms the so called "Agricultural Education" at Cornell. The resolutions asked the State Legislature to revoke the charter granted the University, or if this

could not be done, it called for the abolition of the department of Agriculture, and the re-establishment of a new college at some other place. It was a critical moment. There appeared to be no opposition to the resolutions.

The representative of the Ithaca Grange, one of the few agricultural students in Cornell, quietly arose and asked a few pointed questions. First, he wished to know "how many members of the State Grange had visited Cornell?" Not a hand was raised. "How many could tell anything about the work Cornell was doing for agriculture?" There was no response. Then, "Was it just, was it decent to condemn unheard and unknown? No! it was un-American, it was unmanly, it was unjust; the vilest criminal was not so treated," etc.

The result was that instead of adopting the resolutions, a committee was appointed to visit and investigate the University.

The committee came and while it deplored the fact that few students had elected the course in agriculture—the opportunity was there, and the University was doing its full duty under the organic act of the Federal government.

The committee also learned something of the grand research and experimental work that was being done by Dr. Law, Dr. Caldwell, and Professor Roberts, and it could do nothing less than write a signally favorable report. From this time the tide turned, and agriculture at Cornell began to prosper. The progress was slow. From 1869 to 1879 not more than fifteen, as I remember, had received the degree of Bachelor of Agriculture, while the total number of graduates from all departments was not less than five hundred and fifty. It is no easy task to raise agriculture from a plane of servility and drudgery to one of self respect and genuine independence.

Every son and daughter of Cornell ought to rejoice that she has taken so large and so honorable a part in this great work.

SOME CORNELL BOYS I HAVE KNOWN

A Composite Picture

By *Beverly T. Galloway*

Dean of the College of Agriculture, Cornell University

THIS is not a wild animal story, nor is it a story of wild animals. It is an attempt at composite word picturing applied to a group of men with whom it has been my great pleasure to come in contact during the past twenty-five years. It is to be regretted that the title has limitations. I have known a good many Cornell girls. In fact, my knowledge of some of the boys is so closely associated with that of certain young women that I may unconsciously portray characteristics belonging to both. How, for example, am I to separate and visualize in a composite way certain characteristics of one who has been quite close to me in past times, and who came to Cornell with little more than a determination to get the best that hard work and persistence would secure, and who left with a thoroughly serviceable and practical education, a fairly good bank account, and a most excellent wife. This friend has attained eminence in the world at large, and he is not the only one that has benefitted from a Cornellian partnership that will last through life. But this is a composite picture, and I must not stray too far from the text.

Cornell University has turned out a great many good men. Many of these I have known and honored for their ability and far reaching grasp on the practical affairs of life. The men from the College of Agriculture I have not only had the pleasure of knowing, but I have had to study them from a good many different angles. In the early days of agricultural work in this country, good men were very rare, and those whose fields of labor required men of special training were constantly on the lookout for promising material. I sometimes wonder if our young even now realize how much of this is done, and how much of one's future depends on always being prepared so that the door of opportunity swings without effort and does not

need to be pushed, as many young men seem to think is the case. In those early days, soon after the first Agricultural Experiment Stations were established, we used to "scout" around much after the fashion that baseball magnates do at the present time hunting for promising men in the more specialized fields of botany, horticulture, plant pathology, entomology, and kindred sciences. It came to be generally recognized, that at Cornell we could usually find men of clearly defined ideals, common sense, and abounding enthusiasm.

Here, then, I have developed all the high lights of my composite picture of Cornell men—clearly defined ideals, common sense, and enthusiasm. In all my experience with young men, I think one of the most unique, so far as enthusiasm goes, was with a graduate of the institution who, while he had specialized in a rather dry subject, was so brimful of enthusiasm about it that some of the greatest business organizations of the country became his most devoted followers. That boy could walk into a room of railroad magnates with an armful of railroad ties, telegraph pole, and bridge timber fragments, and in half an hour go very far toward convincing them that timber preservation was not only a moral but a civic duty, and that any individual or corporation that did not recognize this fact would regret it till the end of time. Enthusiasm here was the dominant characteristic, but it was coupled with other things that have written this man's name high on the roll of those who have served their country and their college well.

In our picture we have brushed in, as it were, our back ground of enthusiasm with an illustration. I have often been struck with the clear ideals presented by many of the boys from Cornell. It will be noted that I do not use the term "high" ideals. I consider clear ideals a better one. A

boy's ideals may be high, but not clear, but I have never known a boy with clear ideals that were not high as well. I once asked a Cornellian, who had organized a most efficient team in the field of applied pomology, why it was his men worked as a unit, and why the things they had to do seemed so clearly defined in their minds. He answered it was because the boys had the ground work of their ideals laid back in the old home orchards, and that these ideals were clarified and vitalized by contact with masterminds at the College.

A large proportion of the boys that have come from Cornell have been gifted with that most important attribute—common sense. It is interesting to note, and to weigh, and consider that fine impalpable something which, for lack of a better name, we call the spirit of things, — an atmosphere. It is intangible. It cannot be described, yet, it exists, and plays a vital part in the affairs of life. At Cornell there is an atmosphere of common sense which helps men to see things in their true perspective, to look up—not down, to view the landscape afar—and not the ground at their feet.

Someone has defined common sense as very uncommon sense. It has been said that there are two kinds of common sense, near common sense and supernal common sense. I recall discussing a problem once with some young men, fresh from college. The discussion was sensible enough, but we never got out of the valley. The fields were always at our feet. We could not see beyond the hills. There was one among us, a Cornell boy by the way, who had a vision. He lead us to the hilltops and pointed out that there were fields and more fields beyond our fields, and if we wished to render the greatest service we must not neglect these fields. This man was gifted with supernal common sense. He had imagination tempered with that wisdom which connects facts with the affairs of life. He has had opportunity to follow the light of

his vision, and his work has been a success.

The past ten years has been a topsy turvy period in the agricultural work of the Nation. There has been a tremendous demand for knowledge, and young men and young women have been rushed to and through college at an unprecedented rate. So rapid have been developments that it is no longer practicable to give that careful study to individual traits in men that was once an essential factor in the organization of research and other types of work. Young men graduating from college find themselves, as a rule, placed where they must be able to do team work. Here are to be found some of the finest traits that go to make up real men, a willingness to sacrifice personal interest for the good of the whole. The effacement of self and the recognition of the fact that the real issue is the problem or problems to be solved, and not the personal feelings of the individuals involved. Most Cornell men I have known have been gifted with this ability to do team work. I use the word gifted. After all, is it a gift, or is it the outflow of Cornell spirit? I think it is the latter.

Clearly defined ideals and common sense stand out preeminently in our picture. Enthusiasm has been mentioned, and perhaps that is enough. If I should ever come in contact with a Cornell man, and especially a College of Agriculture man, that could not be made to enthuse on some subject, I should feel the need of calling in either a spiritual or medical adviser, or both. Enthusiasm is a part of a Cornellian's religion, although, in times past, some of my good friends have told me that of the latter Cornell had none. In this connection I recall two stories told me by Cornell boys, which are well worth repeating. One was told by the son of a country minister who had hoped that his boy might attend a seminary in the adjoining county where the so-called sciences were looked upon as subjects to be avoided

on account of their supposed conflict with scriptural teaching. The boy heard of Cornell, found out all he could about how to get there, started in to earn some money to pay his railroad fare, and when this was accomplished he told his father of his intentions. The father had little to say, but he acted as if his boy had taken the road to utter darkness. In time the father found that he had been mistaken and became one of the staunch supporters of the University. The boy pushed his scientific work into new fields, and today is a national figure, yes, more than that, for his work is known throughout the world. Back in a country district there was another boy whose people had been farmers for generations. He was one of a numerous family, and both father and mother were willing and anxious to make sacrifices in order that he might go to a nearby theological school and prepare for the ministry. The boy loved the woods and fields. He was one of the kind that found books in running brooks. He began to study the woods and plants. He

came to know the wild things about him. All the little timid folk of the woods were to him friends that he loved and that he must know more about.

There came to him, from the outside world, rumors of a school that appealed to him because it taught the things that were related to his life. Finally, he made up his mind that he would go to that school, and this he did despite the warnings of neighbors and friends who met a number of times in solemn council around the old kitchen stove and pointed out the dangers which beset young men who strayed too far from home and who leaned too strongly toward what they called the scientific doctrines. This boy came to Cornell, and Cornell may well be proud of him for today he is teaching his favorite subject in a sister institution.

Is my picture a true one? I hope it is. Clear ideals, common sense, and enthusiasm. May all Cornell boys possess them as fully as those whom it has been my pleasure to know.

THE FIRST BANQUET OF THE COLLEGE OF AGRICULTURE, JUNE 11, 1891

GREETING!

The students of agriculture in Cornell University give this entertainment and banquet in honor of the promoters of agricultural education and in testimony of their belief that a world of usefulness and pleasure awaits the educated farmer. We must tell to the world that the higher education is necessary to the best agriculture. We must tell our friends of our enthusiasm for the generous life of the country. We must say that we believe in our ability to make good use of every lesson which the University has given us. We must say to every man that our first love is steadfast, our hopes are high, and our enthusiasm is great. Our hearts are so full that we must celebrate!

Explanation

The eatables served at this banquet, with the exception of sugar, salt, and spices, were grown on the University farm and gardens, and were prepared for the caterer by the students of the College of Agriculture. The front cover of the program is of Oak cut on the University farm, and the back cover is of Hard Pine used in the construction of various buildings of the department. The wool used in tying was sheared from a Shropshire in the farm flock, and the Raffia is that used in the Horticultural Department. In the case of some of the articles on the menu students assisted in filling the soil, sowing the seed, cultivating and harvesting the crop, feeding the stock and preparing it for consumption. Thus by directing life through law they transformed crude soil into plant tissue and then again into highly organized animal substance, so completing the cycle of life.

STUDENT ACTIVITIES IN THE COLLEGE OF AGRICULTURE

PART I

By Professor J. E. Rice, '90

Professor of Poultry Husbandry, Cornell University

The Cornell agricultural students are constructively aggressive in student affairs. They have always shown the true Cornell spirit. This spirit is virile, enthusiastic, helpful and democratic. The agricultural college spirit is a long time tradition and a present day reality.

The student activities, while many and varied, are exceedingly well balanced. They include the field of educational, social, athletic, administrative and philanthropic activities.

Educational—A marked characteristic of agricultural student activities is a serious-minded, educational viewpoint. It is a true and common saying that the agricultural students are "here for business." The large number of departmental clubs, their programs and discussions, and the numerous public speaking, debate and judging teams, are the best evidence of the motives which exert a controlling influence in student affairs.

Social—A splendid spirit of sociability has existed from the very first among the agricultural students. The success which has attended the many social activities is the best possible proof of the fraternal spirit which prevails. These activities have found expression in a long series of successful college, class and club banquets, entertainments and excursions; husking bees; "get-wise," "get-together" and "get-busy" meetings. In these the men and women students and the faculty have worked together joyously, enthusiastically and harmoniously. The agricultural college assemblies are unique and characteristic. Here the Dean, the men and women students, and the faculty and their wives cooperate together in a splendid spirit of confidence and good fellowship. While this function may be considered

as belonging to the Dean, it is managed by students whose efforts provide the program, the decoration and the music, and is presided over by the President of the Agricultural Association.

Athletic—Agricultural students score high on "constitutional vigor." They have an abundance of good, red blood. In proportion to the number of students enrolled in agricultural courses, an historical review of athletic events reveals a record of achievement of which any college might well feel proud. It is a record in which the zeal of the agricultural student, as a loyal Cornellian, is evident. The long list of agricultural students, who have participated in "Varsity" events most of whom have won their "C's" and brought honor to their Alma Mater, indicates that they have first concern for the welfare of the University.

Administration—The students of the agricultural college are essentially a self-governing body. The morale, as judged by the faculty and students of the University, is of a high order. The Agricultural Association, as a centralizing organization has control of the general student activities of the college. The success with which many important movements have been inaugurated and carried through, speaks well for the efficiency and the public-spiritedness of the men and women who have carried the responsibilities for student affairs. They can be trusted to govern themselves.

Philanthropic—A spirit of service pervades agricultural student activities. In the ardor of athletic achievement, in the pleasure of social affairs, in the stress of administrative duties, in all student activities, there prevails a keen desire to render service to the public, to the University, to

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the college, to the department and to fellow students while in college. This type of activity has found expression in many large projects—the "student loan" fund, the "girls' club house," the purchase of a "gig," the annual awarding of medals, the purchase of suits for athletic teams, the employment of directors for musical clubs, the editorship and management of the Cornell Countryman, and not the least in importance, by the large amount of student committee work in the University, College and department administration, where a vast amount of personal initiative, hard work and some financial sacrifice are involved. In all these efforts a common sentiment prevails which frequently finds expression in the familiar slogan—"Do it for Cornell," "Do it for the college." The "creed" that follows is a fair statement of the attitude of Agricultural students toward student activities.

The Creed of the Students of the College of Agriculture

1. We believe that we are here primarily to secure an education.
2. We believe in living a well-balanced, symmetrical life.
3. We believe that to develop a well-rounded, vigorous, efficient manhood and womanhood we must be trained harmoniously, mentally, physically, morally, and that in one person there should be found the highest average of scholarship, physical skill and moral courage.
4. We believe that in order to develop symmetrically we must study faithfully, think clearly, play lively, eat heartily and sleep soundly.
5. We believe in inter-college athletics because of its wholesome emulation, mental relaxation, physical development and moral stimulus.
6. We believe that play is to the body what a good laugh is to the mind and a good deed is to the conscience—refreshing and invigorating.
7. We believe that it is no sin to play to win.

8. We believe that it is better to lose honestly than to win dishonestly.

9. We believe that true sportsmanship will recognize and heartily applaud a successful play on the part of an opponent.

10. We believe that the true measure of victory is in the quality of the opponent and fairness of the play, rather than the size of the score.

11. We believe that all selections and elections to positions of honor or trust within the gift of the students must be made wholly on a basis of individual merit.

12. We believe that efficient service and accomplishment should be suitably rewarded, whether in the realm of scholarship, athletics, journalism, public speaking or other legitimate student activities.

13. We believe that the greatest rewards are to be found not in medals, shingles, diplomas or applause, but in the consciousness of a work well done, a game well played, an honor fairly won, and that we have contributed to the honor and success of others.

14. We believe that every student owes an obligation to himself and herself, to the college, and to the University, to do something, while here, for the good of others and for Cornell.

15. We believe that the students of the College of Agriculture should set a standard for wholesome play, right thinking and clean living.

16. We believe that the students in the College of Agriculture subscribe to this creed and strive to live up to it, and that in this they have the hearty co-operation of the College staff.

(To be continued in the January issue:)

(NOTE. This is the introduction of a series of articles on Student Activities in the College. In the next issue there will appear a list of the Ag. men who have participated in university activities, tables showing what the College of Agriculture has accomplished in intercollege athletics, and a list of all former Presidents of the Agricultural Association and Editors and Business Managers of the *CORNELL COUNTRYMAN*, and a statement of their records since leaving Cornell.

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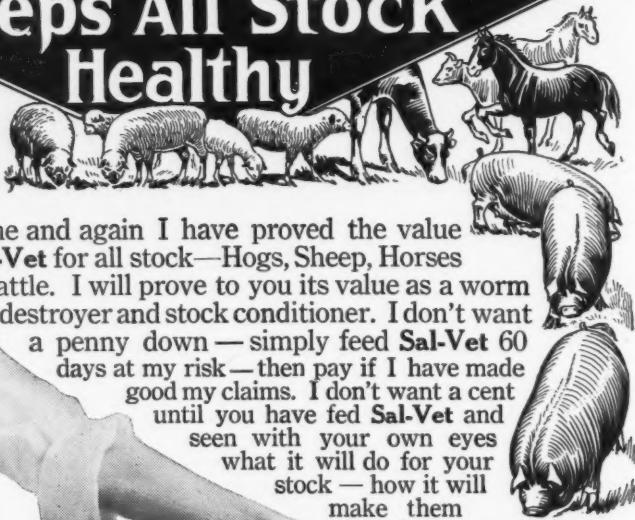
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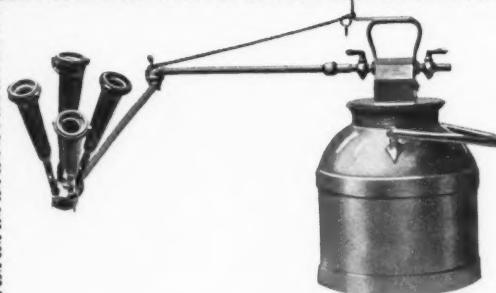
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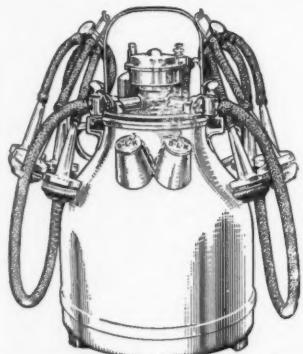
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CAMPUS NOTES

The Big Red Team

With the steady application of a power which has been remarkable, the Cornell football eleven has so completely overwhelmed her opponents in the last seven games this fall that there can be no doubt that the Ithacans are masters of the gridiron. A "Big Red Team" which was once the boast of all Cornell undergraduates is no longer a vision, it is truly a reality. Including the Michigan game, Cornell has won 233 points to 42 credited to her opponents. While all glory is due the Red and White warriors, much credit must be given to the splendid coaching of Dr. Sharpe, Dan Reed, '98, and Ray Van

An Information Bureau for the College

Dr. Galloway is planning a new system by which the New York State farmers will be able to have a ready access to the news and information of the College of Agriculture. By this new method a much larger number of people will be reached than by the present bulletins and lectures. The new system is similar to that which was instituted by Dr. Galloway, when he was Assistant Secretary of Agriculture at Washington, D. C.

Dr. Galloway describes the work as follows:

"Briefly, our office of information will act as a sort of clearing house be-



THE TEAM IN ACTION

Orman, '08. The work of every player on the squad is worthy of comment, but the sensational playing of Quarterback Barrett, '16, Halfback Shuler, '15, Fullback Phillipi, '15, Ends Shelton, '16 and Captain O'Hearn, '15, and Center Cool stand out as the shining lights. The season was brought to a very fitting close by the defeat of Pennsylvania.

The scores for the season are as follows:

Cornell 28, Ursinus 0.
Cornell 3, University and Pittsburgh 9.
Cornell 3, Colgate 7.
Cornell 21, Carlisle 0.
Cornell 48, Bucknell 0.
Cornell 28, Brown 7.
Cornell 48, Holy Cross 3.
Cornell 26, Franklin and Marshall 3.
Cornell 28, Michigan 13.
Cornell 24, Pennsylvania 12.

tween the College and the public, direct and through the press, for the purpose of increasing the amount of printed agricultural information developed by the College and to heighten the direct educational value of published matter. We hope to bring about a better understanding on the part of the public of the work of the College of Agriculture, of the functions of the various departments of the processes on which it bases its recommendations, and thus bring about a closer cooperation between the College and the farmers of New York State."

Mr. Bristow Adams has been secured to head this work and he will assume charge about December 12th.

(Continued on page 240)

**A Short Course at Cornell is, of Course,
Not Complete Without Another
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Short Course students can improve their spare time in learning the New Dances. Make the most of the splendid opportunity of being taught to dance by a Castle House instructor. Mrs. Dorothy Martin is the recognized authority on the Vernon Castle Method of Dancing and has a Diploma to that effect.

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Dr. Hess Stock Tonic contains tonics that improve the appetite and tone up the digestion, laxatives for regulating the bowels and worm tonics that will positively expel worms. I guarantee it. 25-lb. pail \$1.00; 100-lb. sack \$5.00; smaller packages as low as 50c. (except in Canada, the far West and the South).

Dr. Hess Instant Louse Killer

Kills lice on poultry and all farm stock. Dust the hens and chickens with it, sprinkle it on the roosts, in the cracks, or if kept in the dust bath, the hens will distribute it. Also destroys bugs on cucumbers, squash, melon vines, cabbage worms, etc., slugs on rose bushes, etc. Comes in handy sifting-top cans, 1 lb. 25c; 2 lbs. 60c (except in Canada and the far West). I guarantee it.

This is the time of the year when the price of eggs is high and your hens ought to be making up for the small egg crop during moulting.

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Dr. Hess Poultry PAN-A-CE-A

contains ingredients for toning up the digestive system and enriching the blood. It also contains tonics for toning up the dormant egg organs and making hens lay, internal anti-septics for preventing and remedying gapes and other ailments, also bone and shell forming ingredients. Every single ingredient in my Pan-a-ce-a (printed on every package) bears the recommendation of the U. S. Dispensatory and other high authorities. Now read this carefully:

So sure am I that Dr. Hess Poultry Pan-a-ce-a will make your poultry healthy and make your hens lay that I have authorized my dealer in your town to supply you with enough for your flock, and if it does not do as I claim, return the empty packages and get your money back. Buy now on that guarantee.

Sold only by reputable dealers whom you know, never by peddlers. 1½ lbs. 25c; 5 lbs. 60c; 25-lb. pail \$2.50 (except in Canada and the far West). Pan-a-ce-a costs only 1c per day for 30 fowl.

My new poultry book tells all about Pan-a-ce-a. It's free.
DR. HESS & CLARK, Ashland, Ohio

An Information Bureau for the College.

Continued from page 236

Mr. Adams is a graduate of Leland Stanford University and while there took an active part in bringing the publications of that institution to their present standard. Later he was employed by Dr. David Starr Jordan '72 as his assistant in the Alaska Seal Fisheries Industries work. After considerable experience with newspapers on the Pacific coast he became known as an educational lecturer of note. Mr. Adams is an extremely skilled illustrator, most of his slides being of his own work.

For the following four years he was interested in Forestry Service work at Washington, part of the time in connection with Gifford Pinchot. Since that time he has served in various capacities in that service. Lately his work has been more with the information end of the department, in which position he acted until his resignation last week to accept the appointment here.

Although plans for such an innovation are immature there is a possibility of installing in the College of Agriculture a department devoted to journalistic work. If these plans culminate Mr. Adams will assume the head of that department.

Advanced Reading Course in Fruit Growing

With a gain in total enrollment the past year amounting to fifty-one per cent., the Reading-Course for the Farm has been encouraged to add an Advanced Reading-Course in Fruit-Growing in cooperation with the Department of Pomology. In the Advanced Reading-Course a text book will be used, and the work will be conducted somewhat in the manner of a correspondence course. Professor H. B. Knapp of the Department of Pomology will give individual attention to each member in the new course—which will consist of grading answer papers

and making comments and suggestions upon the work of the students. Former students and others who wish to brush up on the subject of Fruit-Growing will find here an excellent opportunity to do so. Applications should be addressed to the Reading-Course for the Farm, College of Agriculture, Ithaca, N. Y.

Few of us realize the work that is being accomplished by the Mailing Department.

This year it is enormous. The duty of the department is to circulate the official publications of the Agricultural College, throughout the entire State. For the year 1913-14 the total number of persons on the mailing list was 285,651. This list is classified as follows: Persons desiring Circulars of the Experiment Station, 25,283; copies of Reading Courses for the Farm, 5,877; copies of Reading Courses for the Farm Home, 37,981; Rural School Leaflets, 217,410. The year 1913-14 shows a total of 77,577 copies of the publications issued per week; an increase of 9,293 over the preceding year.

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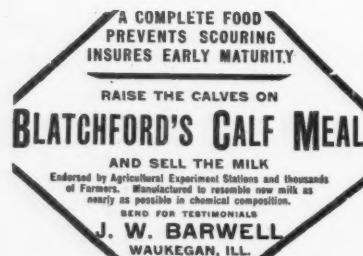
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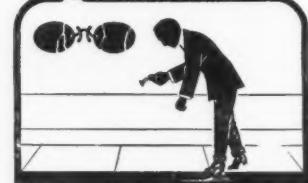
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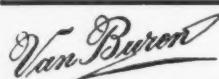
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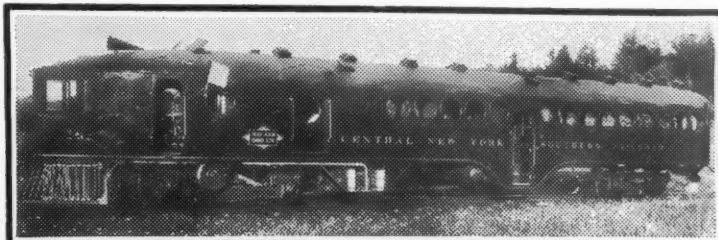
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